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Burnout and Poor Health Resulting from Resource Loss: A Longitudinal Examination of Loss Spirals

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BURNOUT AND POOR HEALTH RESULTING FROM RESOURCE LOSS: A LONGITUDINAL EXAMINATION OF LOSS SPIRALS

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ABSTRACT

The annual cost of work stress is estimated at $187 billion, a cost to both organizations and employees. In light of this figure, research on stress and its' impact on health and productivity has resulted in a number of models of work stress. Conservation of Resources theory is one such model. Conservation of Resources theory identifies patterns of movement for resources and the associated stress outcomes, however one such pattern, loss spirals, is undertested in organizational research as there are methodological challenges that must be overcome to effectively test for loss spirals (Hobfoll, 1989; Zapf, Dormann & Frese, 1996). This study sought to fill this gap in the literature by examining the resource loss process and the impact of loss spirals on health and burnout for employees. Specifically, three forms of resources were utilized in this study, perceived income adequacy, perceived organizational support and job autonomy. These resources were pooled to represent how an individual has multiple resources impacting them at one time. This study modeled loss spirals across three waves of data collection based on the practices described by Salanova (2010). With this, resources were measured over time and were hypothesized to become increasingly low while paired with an increased presence of negative health outcomes and burnout. However, results did not demonstrate a loss spiral, but did show a negative relationship between resources and outcomes (burnout and negative health). While not all hypotheses were supported, this dissertation provides additional support for the movement patterns of resources described in Conservation of Resources theory.

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CHAPTER ONE

INTRODUCTION

Work stress and the associated effects of burnout and negative health outcomes are of major concern for workplaces in the United States. When considering the economic impact, the annual cost of work stress is estimated at $187 billion, made up of both direct and indirect costs to the organization (Hassard et al., 2018; Huang et al., 2011). Direct costs include immediate financial losses to organizations such as with worker compensation claims, while indirect costs include costs productivity loss and administrative costs which frequently are more detrimental to the organization than the direct costs of work stress. Further, unhealthy employees cost the United States economy upwards of $1.3 trillion annually (DeVol & Bedroussian, 2007). These numbers highlight the importance of considering how the workplace impacts employee health and well-being as well as the need to make the necessary modifications to try to limit the heavy costs to organizations. As job stress and burnout significantly contribute to these figures, there is a large body of research on the stress process focused on the relationship between the workplace and health. This dissertation examines one model of stress, Conservation of Resources theory, to understand how resources impact negative health and burnout.

Conservation of Resources theory proposes that individuals seek to obtain and retain resources across their lifetime to prevent against harm and to provide benefits to ones' self (Hobfoll, 1989). Resources can come in many different forms and from many different areas of an individual's life. There many resources that the workplace provides for an individual including instrumental resources such as income and socioemotional

resources such as support. This study sought to provide a robust model of how resources work in tandem with each other to predict employee health and burnout. This study examined multiple forms of resources to allow for a broad conceptualization of how both personal and work-related resources impact an individual. Furthermore, an individual is impacted by many forms of resources at any given moment so by using multiple types of resources in one model this study achived a broad conceptualization of resource loss. This methodology was chosen based on Schaufeli, Bakker and Van Rhenen's (2009) call to include personal resources along with work resources when examining the resource loss process.

Therefore, perceived income adequacy, perceived organizational support and job autonomy were examined to fully understand how resources work in combination to impact the stress process. To do so, perceived income adequacy, perceived organizational support and job autonomy were combined to form a resource pool for individuals, creating a model of how individuals have multiple resources impacting their life at any given moment. Creating a resource pool allows for a deeper understanding of how resources work in tandem to impact an individual. As perceived income adequacy can be labeled as a personal and instrumental resource, perceived organizational support can be labeled a socioemotional work resource and job autonomy can be labeled as an instrumental work resource, each differently relates to outcomes but work in tandem within an individual as predictors. Further, combining resources is an established practice to empirically test lost spirals in Conservation of Resources theory research (Heath, Hall, Russ, Canetti & Hobfoll, 2012). This methodology of three waves of longitudinal design

and cross paths described later in this dissertation has yet to be tested in organizational research. Therefore, this study contributes to the litersture by providing insights on how resources work in a pool. Additionally, Alarcon (2011) describes a "clear dearth of literature on resources" (p. 556) when examining resource loss and burnout. So, this study will be able to fill this gap by using multiple forms of resources in one model.

It is accepted in the literature that resources act dynamically, and move in patterns of loss and gain spirals (Hobfoll, 1989; 2001). However, this dynamic process is rarely tested in action and when it is the models used do not fully represent the depletion of resources, rather, just the introduction of demands (Cuyper, Makikangas, Kinnunen, Mauno & de Witte, 2012). In other words, studies such as the work done by Cuyper and colleagues (2012) introduce a demand, such as job insecurity, to show loss rather than showing the depletion of the resources in question. This study seeks to do just that, show the depletion of resources.

By using a longitudinal design with three waves of data collection, the depletion of resources across time can be examined, thus leading to the hypothesized relationships showing increasingly negative health outcomes and increased burnout. Examining resources longitudinally was recommended by Alarcon (2011) as it allows for a deeper understanding of Conservation of Resources theory. Further, Alarcon (2011) recommended using structural equation modeling to test Conservation of Resources theory to model burnout as path analysis allows researchers to account for multiple variables working simultaneously to predict outcomes (Kline, 2005).

The theoretical contributions described above highlight how the current study fills existing gaps in the literature and provide insights on health and burnout for employees. The knowledge gained by considering both personal and organizational resources allows organizations to provide the necessary resources for their employees to improve employee health and prevent future burnout. Further, the evidence of relationships between health and burnout over time allows organizations to recognize that stressors are not just impactful when they occur, they have a long term influence on an individual. This should shape the way organizations consider the full impact of their actions when adding demands and reducing resources.

The Current Study

As described earlier, this study pooled both resources and outcomes to create one resource variable and one outcome variable that encapsulates three forms of resources (perceived income adequacy, perceived organizational support and job autonomy) and both outcomes (health and burnout). This was done based on the practices established by Heath and colleagues (2012) to empirically test loss spirals in a sample of individuals exposed to political violence. The incorporation of three forms of resources provides a holistic approach to examining resources within individuals. Hobfoll (1989) identified four forms of resources within individuals when developing Conservation of Resources theory and this dissertation utilizes three of the four forms to examine resource loss. Further, while there are multiple forms of resources, they work in tandem within an individual so studying resources as one pooled variable seeks to model this phenomenon (Hobfoll, 1989; 2001).

While the dynamic movement patterns of resources have been studied in organizations, there has been little empirical testing to support them as testing cross-lagged reciprocal casual relationships can methodologically challenging (ten Brummelhuis, ter Hoeven, Bakker & Peper, 2011; Zapf, Dormnann & Frese, 1996). The model used by Heath (2012) builds upon previous work to study loss with cross-lagged relationships across multiple time points to effectively test loss spirals. Heath's (2012) model includes four time points of data collection where multiple forms of resources and distress outcomes are evaluated, both longitudinally and cross-sectionally. More detail on the results of Heath (2012) will be provided later in this dissertation.

Hakanen, Perhoniemi and Toppinen-Tanner (2008) similarly pooled multiple resources to create an all-encompassing resource variable and examine cross-lagged relationships but failed to examine the resource change beyond two measurement instances and did not look at the cross sectional relationships between resources and outcomes. Therefore, these models lack full support for the causal relationships at play in a loss spiral. By translating the practices of Heath and colleagues (2012) into an organizational setting, the literature on how to test for a loss spirals was expanded into organizational research showing loss spirals in a more effective manner than previous studies in organizational research.

It is predicted that, at all three time points measured within this study, resources will have a negative relationship with adverse health outcomes, and as resources deplete, burnout and the presence of negative health outcomes will increase. Further, this relationship will be seen longitudinally, showing the causal relationships between the

constructs in this study. Additionally, as loss spirals are cyclical, the longitudinal relationships between outcomes and resources will be examined to demonstrate how the outcomes of a loss spiral contribute to further resource loss. So, it is expected that outcomes will negatively predict resources at the following time point as the negative effects of resource loss trigger additionally resource loss. Both the resource to outcome and outcome to resource pathways must be significant to show a loss spiral (Salanova, 2010).

The final component of the current study is examining the predictive relationships between resources and outcomes at each time point. It is predicted that time one resources will predict time two resources and time two resources will predict time three resources. This will be done to show the depletion of resources as required by Salanova (2010) to show a loss spiral. Loss spirals focus on the depletion of resources, so examining predictive relationships between resources will demonstrate this process. With time one resources predicting lower levels of time two resources, as will be hypothesized in this study, it demonstrates that the level of resources at one time point impacts the level of resources at a future time point. This relationship will be mirrored with outcomes to show increasing negative effects of a loss spiral. With the outcome variables, this is important to show the negative impact of resource loss on an individual.

The rest of this dissertation will proceed with the following format. First, chapter two will provide background on Conservation of Resources theory and its processes. This includes a detailed description of the processes behind the model used in this study. Further, chapter two also includes literature reviews on the resources used in the current

study, perceived income adequacy, perceived organizational support and positive/negative affect. The third chapter will provide a review of the outcomes used in the current study, burnout and health. For each outcome, a review of the dimensions of each construct are introduced followed by a discussion of the outcome and predictor variables in this study. The paper will continue with the presentation of the study's hypotheses, followed by a description of the methods used, including participants, the procedure, and measures used. Following the method, this paper will then present the results and end with a discussion of the findings, including implications and recommendations for future work.

CHAPTER TWO

CONSERVATION OF RESOURCES THEORY

Conservation of Resources theory is a widely used theory across several areas of psychology to examine how resources are a vital asset for individuals to have and can be used to explain a number of psychological phenomena. Conservation of Resources theory states that individuals strive to obtain, retain, protect and foster things that they value (Hobfoll, 1989). Under this theory, resources are considered anything that an individual values or that enables them to obtain or protect the things that they value.

Resources can be categorized as objects, personal characteristics, conditions and energies (Hobfoll, 1989). Objects are resources that have a direct use or convey status, such as food or personal possessions, like a nice house or car. Personal characteristics are resources that have value in that they aid stress resistance, such as with self-esteem. Next, conditions are resources to the extent that they are sought after such as tenure in a job or marriage. The last category of resources, energies, facilitates the acquisition of other resources. This includes things such as time, money and knowledge.

The basic premises of Conservation of Resources theory suggests that psychological stress and negative outcomes will occur when there is a threat of resource loss, when there is an actual resource loss, or when there is an insufficient resource gain following resource loss (Hobfoll, 2001). This theory of stress is in contrast to Lazarus' cognitive transactional model of stress. In Lazarus' cognitive transactional model, stress and strain are described as a result of individual cognitive appraisals of events (Lazarus & Folkman, 1984). Meaning, that the stress response process is an individual process and

what events are considered stressful for one individual may not be considered stressful to another. In contrast, Conservation of Resources theory assumes the objectively stressful nature of events. Events, such as resource loss, are inherently stressful in Conservation of Resources theory and are experienced as stressful even if an individual does not perceive it as stressful, thus allowing for better between person comparisons (Hobfoll, Halbesleben, Neveu & Westman, 2018). Conservation of Resources theory looks at an objective perspective of an event through a culturally construed framework where events are determined to be stressful or not based on resource loss or threat of resource loss (Williams et al., 2016). For example, when looking at the loss of a condition, such as a marriage ending in divorce, it is culturally recognized that a divorce has a common level of resource loss and will cause stress for individuals (Hobfoll, et al., 2018).

Further, with the emphasis on the individual perception of stressful events there is the potential that workplaces can use Lazarus' conceptualization of stress to avoid addressing harmful workplace conditions as it places the emphasis on the individual not on the environment (Hobfoll et al., 2018). When the attribution of stressful events rests on the individual there is a deflection of responsibility by the organization, as the characteristics of the workplace are not what is causing stress for an individual per Lazasrus' model (Lazarus & Folkman, 1984). Hobfoll and colleagues (2018) even go as far as saying it would be "classist, sexist and racist" (p. 104) for organizations to emphasize is what is perceived and that individuals must change their minds to eliminate stress, rather than to address the environmental aspects contributing to resource loss.

Four key principles support the main tenet of Conservation of Resources theory that individuals strive to obtain, retain, foster and protect the things that they value (Hobfoll, 1989; 2001). First, resource loss is more salient than resource gain. This principle has roots in cognitive psychology where the ideas that individuals are loss adverse and that losses loom larger than gains are well established in the literature (Kahneman & Tversky, 1979). With this decision making theory, individuals seek to avoid situations where losses may occur and the potential for loss is more impactful than the potential for gains. Under Conservation of Resources theory, this is seen in both resource loss' more powerful magnitude of impact than resource gain, but also that the speed of impact and length of time of impact are both larger for losses than for gains.

Next, individuals must invest resources to protect against resource loss, recover from resource loss and gain resources (Hobfoll, 1989; 2001). This includes using resources such as income to pay for other visible resources, like a home or car, but also indirect investment such as building knowledge and skills for future opportunities. This resource investment allows for individuals to offset potential future resource losses by gaining resources in their present state.

The third principle is the gain paradox principle. With this principle, resource gain increases salience when resource loss occurs (Hobfoll, 1989; 2001). So, when resource loss occurs, resource gain is more impactful and valuable for individuals than it would be if loss did not occur. This is important to consider as the introduction of resources when an individual has few resources can mitigate against the negative outcomes for stress but also, can be influential in starting an individual on a resource gain path. For example, if

an individual is in a state of resource loss, such as loss of social support and had low self-esteem, the introduction of a new resource, such as, a supportive supervisor at their job, will be more impactful than a situation where the individual did not have low self-esteem or lose their social support.

The final principle of Conservation of Resources theory explains the withdrawal behaviors and negative health effects of stress in response to resource loss. With this principle, when an individual's resources become exhausted or limited they withdraw into a defensive mode to protect themselves (Hobfoll, 1989; 2001). Hobfoll states that when individuals are in this defensive mode they may act in irrational or aggressive ways to cope with resource loss and to attempt to avoid additional stressful events.

Conservation of Resources theory has been used to explain many different workplace phenomena. As stated above, resource loss leads individuals to withdrawal to protect against future research loss and preserve current loss. This can occur in an organizational setting with withdrawal behaviors such as absenteeism and turnover. For example, the loss of social resources such as supervisor support leads individuals to experience emotional distress and increased turnover intentions (Chen, Ployhart, Thomas, Anderson, & Bliese, 2011). Individuals seek to distance themselves from the stressful situation and protect against further resource loss resulting in increased turnover intentions and absenteeism. Similarly, when employees are confronted with stressful work-related situations and increased demands they tend to be less willing to invest additional time and energy to engage in citizenship behaviors in order to preserve resources (Ng & Feldman, 2012). Another phenomena Conservation of Resources theory

can be applied to is workplace bullying (Wheeler, Halbesleben & Shanine, 2010; Zhu, Lyu, Deng & Ye, 2017). With this, the loss of or threat of loss of resources leads to workplace bullying (Wheeler, Halbesleben & Shanine, 2010). Workplace bullying seeks to change resource loss into resource gain for the individual performing the bullying to avoid future resource loss.

Important to the study at hand, Conservation of Resource theory has two momentum patterns for losses and gains: caravans and spirals. For these patterns to occur, research argues that major resources are linked to other resources (Hobfoll, 1998; Rini, Dunkel-Schetter, Wadhwa & Sandman, 1999). So, this creates a resource caravan where possession of one resource facilitates the acquisition of other resources. For example this is seen with personal resources like self-esteem and optimism. These characteristics are more likely to emerge in an individual who grew up in nurturing and supportive environments. This example is a resource caravan pathway. Resource caravan pathways help to explain why resources are highly correlated and why one resource facilitates the acquisition of another resource. With resource caravan pathways, ecological conditions can foster, nurture, block or limit resource creation and sustenance (Hobfoll, 2011). In an organizational setting, organizations can create an environment with support, stability, and safety to facilitate resource caravan pathways for their employees (Hobfoll, 2011).

While caravans are seen only with resource gain, spirals can be seen with both losses and gains. Spirals are seen when the loss or gain of a resource leads to the loss or gain of another resource or changes in levels of the same resource. For gains, this is

similar to a resource caravan, but spirals look at the direct connection between multiple resources. As resource gain is slower and less impactful than resource loss, gain spirals are weaker and more infrequent. However, gain spirals can act quicker and can be more influential after a period of loss (Hobfoll, 1989; 2001). Gain spirals are not frequently examined in the literature due to the slow process and predicted small impact. However, in one study across three years, it was shown that presence of job resources at time one was predictive of job resources at time two (Hakanen, Perhoniemi & Toppinen-Tanner, 2008). Further, this gain spiral was associated increased engagement showing the importance of job resources for an organization.

Loss spirals cause individuals who lack resources to be more vulnerable to further resource loss. This can be explained due to the more powerful impact of resource loss where it becomes harder to offset resource loss because an individual has fewer resources with each loss (Hobfoll et al., 2018). Further, each loss gains in impact and speed, further depleting resources and causing additional stress for the individual.

Methodologically, studying loss spirals can pose a challenge (Zapf, Dormann & Frese, 1996). This is due to the reciprocal causal relationships at hand with loss spirals. As described previously, a loss spiral consists of amplifying loops in which cyclic relationships among constructs build on each other over time (Salanova, Schaufeli, Xanthopoulou & Bakker, 2010). Meaning that there are two conditions that must be met when statistically modeling loss spirals. First, there must be reciprocal relationships tested between predictors and outcomes within the model (Salanova et al., 2010). This means that both normal and reverse causation needs to be seen in the model with paths

from resources to outcomes and paths between outcomes to resources. These two relationships need to be dependent on one another and should not exist individually meaning that if only one is shown there is no loss spiral. Second, there needs to be a difference in the resource level over time (Salanova et al., 2010). In the case of loss spirals there needs to be a decrease in the presence of resources across the model. These two conditions create self-reinforcing feedback loops showing the depletion of resources and the increase in negative outcomes.

Loss spirals can be seen both in organizational and non-organizational settings. In one such study, a loss spiral was shown between work pressure, work-home interference and exhaustion involving the introduction of demands representing the increased loss of resources (Demerouti, Bakker & Butler, 2004). Across three waves, long term reciprocal relationships were found between demands and outcomes, showing the long term impact of a loss spiral. Further, highlighting the loss spiral, individuals already suffering from work-home interference and exhaustion felt more work pressure at later time points as they had fewer resources to protect against demands (Demerouti, Bakker & Butler, 2004). A loss spiral can also be seen in the relationship between perceived employability and job insecurity (Cuyper, Makikangas, Kinnunen, Mauno & de Witte, 2012). In this study, continual loss of perceived employability increases feelings of job insecurity. Then, from increased job insecurity individuals reported increased levels of exhaustion demonstrating how loss spirals can negatively impact an employee's health and well-being (Cuyper, Makikangas, Kinnunen, Mauno & de Witte, 2012). These two studies illustrate the issue frequently seen in organizational research on loss spirals, they focus on

the increased presence of demands, job insecurity and work-home interference, rather than a true decrease in resource level. Further, these studies do not fulfill all of the requirements of a loss spiral described by Salanova (2010), thus highlighting the necessity of additional organizational research on loss spirals.

Loss spirals can also be seen in a number of settings dealing with trauma and major stressors. For instance following political violence, loss spirals resulting in increased psychological distress were found in Palestine (Heath et al., 2012). They found that in the months following political violence, participants had increasingly high levels of psychosocial resource loss. Resource loss was measured at each time point based on Likert-type evaluations of common resources an individual may have and if they had lost that resource. With each measurement of resource loss there was an increase of negative health outcomes (Heath et al., 2012). This study pooled interpersonal and intrapersonal resources for a full examination of resource loss, while also pooling the outcome variables, PTSD and depression. Across time points, the pooled resources and outcomes developed a stronger predictive relationship with one another indicating resource depletion and increasing negative effects of resource loss.

This study seeks to use the principles and theory behind Conservation of Resources theory to show the dynamic process of resource loss and negative health outcomes. To do this, loss spirals will be tested across three waves of data collection similar to the processes used by Heath and colleagues (2012) and described above by Salanova (2010). By doing so, the dynamic relationship between resources and outcomes will be examined empirically in an organizational setting. The use of multiple categories

of resources will allow for a deeper understanding of the stress process and how Conservation of Resources theory can explain individuals experiences at work.

Perceived Income Adequacy

When considering the classification of resources under Conservation of Resources theory, income falls under energies. Energies allow for the facilitation of other resources, and income does just this (Hobfoll, 1989). Having sufficient income allows for individuals to directly acquire objects and can facilitate the gain of personal characteristics and conditions. Further, it is well documented across multiple fields, such as social psychology, sociology, and health psychology, that income loss is detrimental to an individual's health and well-being (Sinclair & Cheung, 2016). For instance, substantial income loss has been shown to harm social ties and to increase family conflict for an individual (Elder & Caspi, 1988). Additionally, research has found a negative relationship between depressive symptoms and income (Chou, Chi & Chow, 2004). Specifically, individuals are more likely to report depressive symptoms when they have fewer sources of major income streams.

However, using income alone to measure economic situations may miss the full picture of an individual's financial situation. For example, two individuals with the same level of income can face dramatically different levels of mortgage, student loan, or medical debt. The same two individuals also might differ in financial demands such as cost of living and number of dependents. Therefore, a full understanding of one's economic situation should take into account alternative indicators of income (cf. Sinclair & Cheung, 2016). So, to resolve this issue in the study at hand, perceived income

adequacy, a subjective indicator of economic resources, will be used as the conceptualization of income and financial resources.

Perceived income adequacy is typically defined as the cognitive evaluation of an individual's financial ability to meet one's basic needs and lifestyle wants (Litwin & Sapir, 2009; Sears, 2008). This reflects an individual's evaluation of their financial situation including perceived financial adequacy, and concerns and worries about current and/or projected financial status, thus providing a more robust evaluation of their economic resources (Voyandoff, 1990). Perceived income adequacy can be divided into two categories, basic needs and lifestyle wants. Basic needs include necessities individuals need to survive such as food and shelter, while lifestyle wants are items that individuals can live without such as leisure activities and recreation (Waters & Moore, 2002; Whelan, 1992).

Whelan (1992) furthered the distinction between wants and needs by demonstrating how primary and secondary deprivations differently influenced financial stress. Primary deprivation which included needs such as heat, food, and clothing had a stronger influence on financial stress than secondary deprivation ,which included being deprived of lifestyle wants. Whelan additionally highlighted the importance of measuring both wants and needs, rather than just examining wants or needs, because each form of deprivation had differing impacts on financial stress. Since the needs in primary deprivation were more related to financial stress, it is important to consider needs and wants as separate components that impact stress. Whelan (1992) found that income was less correlated with financial stress than subjective measures of both primary and

secondary deprivations providing additional support for the use of perceived income adequacy in this study rather than using income as a resource.

Similarly to income, perceived income adequacy has an established relationship with both mental and physical health outcomes. When looking at subjective income and mental health symptoms, the number of depressive symptoms present increased as individuals viewed their income as more unable to meet their financial needs and wants (Kim, Kim, Lee, Ju & Park, 2017). Further research has shown that perceived income inadequacy is a predictor of psychological distress in a sample of caregivers (Sun, Hilgeman, Durkin, Allen & Burgio, 2009). Psychological distress in this study was defined as self-reported depressive symptoms and anxiety. Increased depressive symptoms and increased anxiety were found when individuals felt their income was inadequate, rather than looking at objective income alone (Sun et al., 2009). Looking at self-rated physical health, lower subjective financial well-being is tied to poorer self-rated physical health (Arber, Fenn & Meadows, 2014). This finding was also seen when examining perceived financial strain, with individuals with increased financial strain reporting lower levels of self-rated health and functional capacity (Angel, Frisco, Angel & Chiriboga, 2003).

However, also similarly to income, there is research tying perceived income adequacy with organizational outcomes. Research has not examined the impact of income as a predictor of employee's attitudes, affect and behavior (Leana & Meuris, 2015). This resulted in Leana and Meuris's (2015) call for further research examining the relationships at hand between income perceptions and work-related outcomes. While this

literature is limited, there is evidence supporting relationships between subjective perceptions of income and psychological well-being and absenteeism (Kim & Garman, 2003; Pereira & Coelho, 2013). When looking at psychological well-being, perceived income adequacy was found to have a positive impact on psychological well-being (Pereira & Coelho, 2013). To explain this relationship, borrowing constraints and perceived access to credit were examined as mediators. So, as an individual feels their income is better able to meet their needs and wants they also feel they have a better ability to borrow money thus improving psychological well-being. This can also be examined from a resource loss perspective where, as an individual loses the ability to meet their financial needs and wants, they also lose the ability to borrow money, thus hurting their psychological well-being. Further, this study provides support for using a subjective measure of income, as perceived income adequacy had a stronger impact on psychological well-being than income alone.

In examining subjective income perceptions and absenteeism, increased feelings of financial stress (decreased perceptions of income adequacy) have been shown to be related to four indicators of absenteeism: frequency of absences, days unable to carry out normal activities, days cut down on normal activities and work time used for personal objectives (Kim & Garmon, 2003; Kim, Sorhaindo & Garman, 2006). Kim and Garmon (2003) compared objective income and subjective income perceptions as predictors of absenteeism and found that subjective income perceptions is a better predictor than objective income. This is further evidence that despite one's income level they may not be able to meet their financial obligations or support their desired lifestyle.

In an effort to explain the relationship between income and absenteeism, Kim, Sorhaindo and Garman (2006) examined job satisfaction and organizational commitment have been examined as possible mediators. Job satisfaction helped explain the relationship between the all four forms of absenteeism tested and financial stress (Kim, Sorhaindo & Garman, 2006). So, with financial stress and feelings of being unable to meet needs and wants, individuals feel less satisfied with their work life. Organizational commitment did not mediate the relationship between financial stress and absenteeism, but rather served as an outcome (Kim & Garmon, 2016). Duplicating the pattern seen with absenteeism, financial stress was negatively related to organizational commitment. So, as an individual feels that they cannot meet their financial needs and wants, they then feel less committed to the organization. This relationship was also seen with perceptions of the sufficiency of one's monthly income when examining the impact of income perceptions on job attitudes such as commitment and satisfaction (Witt & Wilson, 1989). In this study, it was determined that with increased perceptions than one's income was sufficient, both based on their needs and wants and based on their efforts on the job, there were more positive feelings of job satisfaction and commitment.

Similar to perceived income adequacy, yet a conceptually distinct construct, financial security has been shown to be related to important organizational outcomes. Financial security specifically examines ones' subjective opinion reflecting the adequacy and stability of monetary assets relative to liabilities (Munyon, Carnes, Lyons & Zettler, 2019). These researchers examined job satisfaction, job tension and burnout as outcomes of financial security. A positive direct relationship was found between financial security

and job satisfaction in that as individuals felt they had enough monetary assets relative to their liabilities they felt more satisfied with their job. Job satisfaction acted as a mediator between financial security and job tension, so that as job satisfaction increased due to financial security, individuals felt less job tension. Last, and more important to the study at hand, financial security was negatively related to burnout (Munyon et al., 2019). The inability to achieve financial stability acts as a chronic stressor for individuals, thus resulting in burnout. From the other perspective, financial stability acts as a resource that can mitigate the emergence of burnout.

Based on the relationships discussed above, perceived income adequacy is an apt resource to consider in the study at hand. Research has established the relationship between income and health along with subjective income and health but this study will further this understanding by examining the dynamic processes at hand with Conservation of Resources theory. While research currently lacks on the impact of perceived income adequacy on workplace outcomes, there is some connection between subjective income and organizational outcomes, such as with financial security and burnout (Munyon et al., 2019). This study will provide insights into how perceived income adequacy impacts individuals at work by studying burnout.

Perceived Organizational Support

Perceived organizational support is broadly defined as the extent to which an employee believes their organization values their contributions are cares about their well-being (Eisenberger, Huntington, Hutchinson & Sowa, 1986). Further, perceived organizational support reflects a belief that the organization will aid employees as needed

to carry out their jobs effectively and to deal with stressful situations (George, Reed, Ballard, Colin & Fielding, 1993). When considering Hobfoll's (1989) typology of resources, perceived organizational support can be considered a condition. Conditions are resources that are frequently sought after such as job tenure or marriage. Perceived organizational support is sought after for individuals in their workplace as it represents how much their organization cares about them. This allows for stress resistance as when an individual has high perceived organizational support they believe their organization values their well-being and will act to help them prevent and recover from stressful situations.

Perceived organizational support is grounded in social exchange theory, specifically organizational support theory (Eisenberger et al., 1986; Shore & Shore, 1995). Social exchange theory focuses on the idea of reciprocity (Cropanzano & Mitchell, 2005). Individuals have a desire for reciprocity and balance in resource exchange which thus defines exchange behavior in social relationships. Social exchange relationships are defined by long term relationships with mutual investment and unspecified obligations that require mutual trust. With organizational support theory, individuals evaluate their organization's readiness to reward increased effort and to meet socioemotional needs, thus impacting the levels of perceived support given by their organization (Rhoades & Eisenberger, 2002). For this exchange relationship to develop, individuals personify organizations based on the actions of agents within the organization (Eisenberger et al., 1986). So, the favorable or unfavorable treatment of an individual by important organizational agents, such as one's supervisor, influences individuals'

perceptions of the extent to which their organization favors or disfavors them, forming their perception of their level of organizational support. Further, it is important to note that in addition the actions of organizational agents organizational policies and procedures along with various resources and individual receives also influence perceived organizational support perceptions (Eisenberger et al., 1986; 1990).

Organizational support theory provides insights on the antecedents and consequences of perceived organizational support in terms of social exchange processes. First, with the antecedents of perceived organizational support, resources that contribute to feelings of perceived organizational support will be valued more and more impactful on perceptions of perceived organizational support when based on discretionary or voluntary actions than when the resources are given to the individual in a situation beyond the agent's control (Eisenberger, Cotterell & Marvel, 1987). This can be seen, for example, with changes to the work environment to improve working conditions. If the organization decides independently to make changes to improve an employee's safety on the job it will impact perceived organizational support more than if an organization made the changes to comply with federal health and safety regulations. Further, the degree to which an individual identifies an organizational agent with the organization impacts the influence of their actions on their perception of perceived organizational support (Eisenberger, Stinglhamber, Vandenberghe, Sucharski & Rhoades, 2002). If an individual perceives an agent, such as their supervisor, as more aligned with and identifying with the organization, their actions will be seen as contributing more to perceived organizational

support than if an individual views their supervisor as acting independently of the organization.

According to exchange theory and organizational support theory there are three psychological processes that underlie the consequences of perceived organizational support as identified by Rhoades and Eisenberger's (2002) meta-analysis. In general, perceived organizational support has a motivational impact on individuals with increased perceived organizational support there is an increased motivation to act favorably toward the organization. This is first explained via reciprocity norms. When an individual has high levels of perceived organizational support, there is a felt obligation to care about the organization's welfare and to help the organization reach its objectives. Next, perceived organizational support fulfills an individual's socioemotional needs causing them to incorporate organizational membership into their social identity. Third, perceived organizational support strengthens an individual's belief that the organization recognizes and rewards performance.

With these motivational pathways, Rhoades and Eisenberger's (2002) meta-analytic review identified a number of favorable outcomes of perceived organizational support both on an organizational and individual level. For instance, individuals with high perceived organizational support experience increased job satisfaction and a more positive mood while at work (Rhoades & Eisenberger, 2002). On the organization level, when an organization is made up of individuals with high perceived organizational support there is increased commitment, improved performance and lower levels of turnover (Rhoades & Eisenberger, 2002).

Looking at these outcomes in more detail, several studies have shown the relationships described by Rhoades and Eisenberger (2002). First with organizational commitment, this relationship can be explained by the motivational pathways described above. As perceived organizational support fulfills an individual's socioemotional needs this creates a sense of belonging to their organization and interties one's identity with their organization. This then creates increased organizational commitment with an increased desire to remain with an organization (Armeli et al., 1998; Eisenberger et al., 1986). Looking distally, there are other outcomes to consider when examining perceived organizational support and organizational commitment. One such example shows how commitment mediates the relationship between perceived organizational support and employee well-being (Panaccio & Vandenberghe, 2009). With increased perceived organizational support and increased organizational commitment an individual's well-being was improved.

Another key outcome discussed by Rhoades and Eisenberger (2002) as an outcome of perceived organizational support is turnover. Turnover intentions decrease as individual perceives their organization as more supportive. This process is explained via similar mechanisms to organizational commitment. So, as an organization fulfills socioemotional needs and creates a feeling of reciprocity, individuals are less likely to want to or feel they need to withdrawal from their organization (Rhoades & Eisenberger, 2002). Examining reciprocity, individuals feel increased personal sacrifice for their organizations when they have higher perceptions of organizational support. Personal sacrifice reflects the loss of benefits that would occur from leaving an organization.

Awareness of the benefits an organization provides leads to feelings of indebtedness to ones' organization via reciprocity thus decreasing desires to leave the organization (Dawley, Houghton & Bucklew, 2010). To more fully understand how perceived organizational support decreases turnover intentions, mentoring was examined as a predictor of perceived organizational support to form a mediated model of turnover (Park, Newman, Zhang, Wu & Hooke, 2016). Effective mentoring increased perceived organizational support, as mentors act as organizational agents engaging in voluntary actions to show the organizations support and care for the well-being of the mentee. This additionally supports organizational support's theory of reciprocity, as mentees feel increased responsibility to act in support of the organization in response to the mentoring functions (Park et al., 2016).

Based on the relationships discussed above, perceived organizational support is an apt resource to consider in the study at hand. Research has established the relationship between perceived organizational support and workplace outcomes along with well-being but this study will further this understanding by examining the dynamic processes at hand with Conservation of Resources theory. By furthering the understanding of how perceived income adequacy impacts individuals at work, this study will extend the literature on how the actions of an organization impact the health and well-being of the individuals who make up the organization.

Job Autonomy

The final resource that will be considered in the current study is job autonomy. When considering Hobfoll's 1989 typology of resources, job autonomy can be considered

a condition. Conditions are resources that are frequently sought after, such as job tenure or marriage. Job autonomy is sought after as it represents to degree of discretion employees have over decisions relating to their work (Hackman & Oldham, 1975). Individuals seek to have more job autonomy as it aids in the stress resistance process. As job autonomy allows individuals increased control over their work tasks, they are able to avoid situations where resource loss may occur.

Job autonomy is an important aspect of work design. The dominant theoretical model of work design is Hackman and Oldham's (1975) Job Characteristics Theory. This motivational theory describes how a number of key aspects of work design including, skill variety, task identity, task significance, autonomy and feedback impact outcomes such as motivation, satisfaction, retention and performance. Within the aspects of work design described by Job Characteristics Theory, job autonomy is considered the most widely studied and is viewed as central to motivational work design (Morgeson & Humphrey, 2006). Hackman and Oldham (1975) originally conceptualized autonomy as the amount of freedom and independence an individual has in terms of carrying out their work assignment. This definition has been expanded with further research to state that autonomy reflects the extent to which a job allows the freedom, independence and discretion to schedule work, make decisions and choose the methods used to perform tasks (Breaugh, 1985; Wall, Jackson, & Davids, 1992; Wall, Jackson, & Mullarkey, 1995). Based on this understanding of autonomy, Morgeson and Humphrey (2006) identified three facets of job autonomy: freedom in work scheduling, freedom in decision making and freedom in work methods.

Looking at autonomy studied within the Job Characteristics Model there are a number of important relationships between organizationally relevant constructs and autonomy. First, in a meta-analytic review of work design, the Job Characteristics Model was examined looking at behavioral, attitudinal, role perception and well-being outcomes (Humphrey, Nahrgang, & Morgeson, 2007). Relationships were examined between all of Job Characteristics Theory's aspects of work design with stronger relationships found for behavioral and attitudinal outcomes. Specifically for autonomy, the strongest relationships were found for attitudinal outcomes, specifically job satisfaction (Humphrey, Nahrgang, & Morgeson, 2007). Additionally, fluctuations in work design have been studied to show changes in autonomy levels across time (Grant, Fried, & Huillerat, 2011). These fluctuations have been shown to impact the motivational properties and outcomes of work design as described in Job Characteristics Theory (Grant, Fried, & Huillerat, 2011; Oerlemans & Bakker, 2018).

Beyond the Job Characteristic Model, autonomy can be understood in terms of the Job Demand-Control Model. The Job Demand-Control Model is a model of stress that states that in instances of high job demands, control can help mitigate stress (Karasek, 1979). Under this model, job autonomy is represented by control, both in decision making authority and the ability to use discretion in the tasks performed on the job. The Job Demand-Control Model is widely used in organizational research to understand stress and health.

First, in a meta-analysis on the interrelationships between job demands, control and support it was found that positive relationships exist between control and supervisor

support and between control and coworker support (Luchman & Gonzalez-Morales, 2013). Important to the study at hand is that these relationships were explained as potential resource caravans. Creating a relationship between autonomy and support in the literature establishes a basis for the use of both job autonomy and perceived organizational support in this dissertation. With an existing relationship between autonomy and support seen with resource caravans, a loss spiral may occur with negative fluctuations in autonomy. Further, Luchman and Gonzales-Morales (2013) found a negative relationship between autonomy and burnout. So, as an individual loses autonomy they are more likely to report symptoms of burnout.

In a follow up to the findings of Luchman and Gonzales-Morales (2013), Fila, Purl and Griffeth (2017) further examined the relationships between job demands, control and support while also considering demographic moderators. Additional support for a positive relationships between control and support were found along with support for a negative relationship between demands and control. The negative relationship between demands and control was moderated by gender dominated workplace environments such that male dominated workplaces had a less negative relationship between demands and control than female dominated workplaces (Fila, Purl, & Griffeth, 2017).

To provide support for the buffering effects of control in the Job-Demand Control Model, an experimental test was performed on bus drivers in which manipulated levels of demands and autonomy were related to job strain (Cendales-Ayala, Useche, Gomez-Ortiz, & Bocarejo, 2017). It was found that as autonomy was increased, physiological markers of strain decreased and self-report psychological well-being also increased. This

study experimentally manipulated autonomy by assigning participants to either a group in which there were few restrictions on their pace of work or a group in which the pace of work was restricted. The use of both an experimental methodology and physiological markers of strain provide strong support for the moderating effect of control on the relationship between job demands and stress. This shows that autonomy and control are influential to the stress process for individuals at work.

Autonomy has also been tied to a number of organizationally important outcomes beyond those described within the Job Demand-Control Model and Job Characteristics Theory. Autonomy is frequently used as a resource within Conservation of Resources theory, as proposed by this dissertation, as it has been found to be a beneficial resource to aid in stress resistance. In one study examining burnout in health care situations, job autonomy was used as a resource, it was found that autonomy aided in an individual's attempts to avoid situations that would result in resource loss or that contained a threat of resource loss (Shirom, Nirel, & Vinokur, 2006). This then resulted in lower reports of burnout for individuals with more job autonomy and increased quality of care for patients. Additionally, individuals with increased autonomy reported less role overload than individuals with lower levels of autonomy.

In another study making use of autonomy as a resource, the ability to engage in job autonomy was determined influential to having access to additional coping resources (Ito and Brotheridge, 2002). This indicates a potential resource caravan between autonomy and coping resources. The existence of this resource caravan provides further support for using autonomy in a potential loss spiral in the proposed study as there is a

demonstrated linkage between autonomy and additional resources. Further, Ito and Brotheridge (2002) examined coping resources of positive orientation, problem solving, seeking advice and avoidance and found that autonomy was related most to positive orientation and advice seeking. This additionally supports that autonomy allows individuals to avoid situations where they may lose future resources.

Further examining autonomy and job stress, the interaction of these two constructs mitigated the effects of burnout in a study of social workers (Kim & Stoner, 2008). Under situations of high role stress, individuals who had more autonomy over their job reported lower levels of burnout. Kim and Stoner (2008) also found a direction relationship between job autonomy and turnover intentions with decreased job autonomy increasing turnover intentions. This further supports Conservation of Resources theory where individuals seek to avoid situations where they lose resources. Decreased levels of autonomy would be considered resource loss, so individuals would seek to leave a situation, or organization, where they are losing resources.

In summary, using the theoretical foundation that Conservation of Resources theory provides, this study will use multiple forms of resources to examine the resources loss process. The use of a socioemotional work-related resources and an instrumental personal resources, perceived organizational support, job autonomy and perceived income adequacy respectively, allows for a detailed examination of resource loss to demonstrate loss spirals. The use of these resources is representative of Hobfoll's (1989) typology of resources as it represents two of the four forms. This provides an approach of viewing resources within an individual that takes into account multiple resource forms.

This chapter reviewed antecedents and outcomes of these constructs to provide an understanding of the study variables. The following chapter will introduce the outcome variables for this study, burnout and health, and provide a review of the literature discussing the conceptual makeup of these constructs but also their place in the organizational psychology literature.

CHAPTER THREE

OUTCOMES

This study will focus on two outcomes of interest in examining how perceived income adequacy, perceived organizational support and job autonomy act as resources in determining the effects of resources loss on organizational outcomes. The two outcomes chosen are burnout and health. This chapter will provide a background on each of these constructs and explain their use in this study.

Burnout

Burnout, while being officially recognized as a medical diagnosis by the World Health Organization in 2019, has been studied in psychological research dating back to the 1970s. Freudenberger (1974) first conceptualized burnout as a syndrome consisting of both physical symptoms such as feelings of exhaustion and behavioral symptoms such as feelings of irritation and frustration. While research has expanded upon and shifted from Fredenberger's original symptoms and recommended preventative measures, his discussion of burnout spurred an increasingly relevant and prolific research avenue for industrial-organizational psychologists.

Currently conceptualized as a prolonged response to chronic emotional and interpersonal stressors on the job, burnout refers to a syndrome of disengagement from one's work that involves exhaustion, hopelessness, lack of enthusiasm and reduced self-esteem (Maslach, 2003). The first major model of burnout was the Maslach Burnout Inventory created based on the experiences of social workers and members of other helping professions (Maslach & Jackson, 1981). In this model, burnout is defined with

three dimensions: emotional exhaustion, depersonalization and reduced personal accomplishment.

Emotional exhaustion is the core burnout dimension and most obvious manifestation of this syndrome (Maslach et al., 2001). Emotional exhaustion refers to a depletion of emotional resources, often from repeated or draining interactions with others (Fusilier & Manning, 2005). Emotional exhaustion may be a precursor to the other symptoms, such that exhausted individuals begin to distance themselves emotionally, socially, or cognitively from their work, presumably in an attempt to cope with demands (Maslach, 2003).

Depersonalization, later named cynicism, characterized by a callous attitude, detachment, and frustration toward others (Maslach & Jackson, 1981). In human services and other types of jobs, individuals use cognitive distancing as a coping mechanism, which means that they develop an indifference to people when they are exhausted or discouraged. Depersonalization is such an immediate response to exhaustion that a strong relationship is consistently found between emotional exhaustion and cynicism across a wide range of occupational settings (Maslach et al., 2001).

Reduced personal accomplishment is the self-evaluation and performance-related component of burnout. It refers to feelings of a lack of achievement, purpose, and productivity at work (Maslach et al., 2001). The relationship of reduced personal accomplishment and the other two dimensions is more complex. In some instances, reduced personal accomplishment appears to be a result of exhaustion, depersonalization, or both (Lee & Ashforth, 1996). In other instances, feelings of reduced personal

accomplishment seem to develop in parallel with the other two components, rather than sequentially (Maslach, 2003).

While the Maslach Burnout Inventory was the first major conceptualization of burnout and still is frequently considered the standard for burnout research, it has a number of criticisms in the literature. First, as mentioned above, the Maslach Burnout Inventory was designed based on members of helping professions; burnout is not limited to occurring only these professions. Therefore, there are potential issues with generalization of the inventory to be used in all occupational groups.

Further, the Maslach Burnout Inventory dimensions were created based on factor analysis rather than from an established theoretical framework (Maslach & Jackson, 1981; Shirom & Melamed, 2006). Reliance on the groupings of factor-analyzed items rather than theoretical support shows inherent weakness in the Maslach Burnout Inventory. Factor analytic techniques show statistical relationships among items but the groupings are not created with a hypothesized structure, rather the groups are defined and labelled after their creation. Another criticism related to the use of factor analysis is the possible homogeneity of the dimensions as high correlations are found amongst the dimensions of the Maslach Burnout Inventory (Lee & Ashfort, 1990). It is possible that a one- or two-factor solution could have been superior to the three factor model used in the inventory as it stands. The last major criticism of the Maslach Burnout Inventory is that the inventory ignores the physical response to stress (Shirom, 2005). As the physiological response to stress is a key component of the stress process, leaving this off the Maslach

Burnout Inventory results in missing information on how burnout is impacting individuals.

To address these criticisms, there was a shift towards process models of burnout. These models, rather than only looking at the symptoms of burnout, address the process of how burnout occurs. One such model is the Pines' Model of Burnout which identifies burnout as a syndrome of psychological disengagement resulting in exhaustion from emotionally demanding situations (Pines, 1981). Pines (1981) identified three pathways through which this exhaustion occurs: physical, emotional and mental. While this model has a stronger theoretical basis and provides a baseline for the burnout process it does not conceptually distinguish burnout from other related constructs such as anxiety and depression (Shirom, 2011).

To combine the symptoms of the Maslach Burnout Inventory and the process depicted in Pines' Model of Burnout the Shirom-Melamed Burnout Model was created (Shirom & Melamed, 2006). The Shirom and Melamed model views burnout as one's feelings of physical, emotional and cognitive exhaustion resulting from the continuous depletion of their energetic coping resources from exposure to job-related stressors (Shirom, 1989, 2003). Based on this conceptualization of burnout and to address the criticisms with existing burnout models the Shirom-Melamed Burnout Measure (SMBM) was created (Shirom & Melamed, 2006).

The SMBM is theoretically grounded in Conservation of Resources theory, making it an apt method of conceptualizing burnout for the study at hand. As mentioned earlier in this manuscript, Conservation of Resources theory is based on the idea that

people are motivated to obtain, retain and protect the resources that they value (Hobfoll, 1989). While there are any number of types of resources applicable to Conservation of Resources theory, the SMBM conceptualization of burnout looks at energetic resources specifically (Hobfoll & Shirom, 1993). Shirom and Melamed (2006) describe three reasons for the focus on energetic resources. First, energetic resources are closely interrelated and act as a resource pool, meaning that lacking one is associated with lacking another resource. Next, energetic resources are distinct from other constructs, unlike components of other burnout models such as the Maslach Burnout Inventory. Last, focusing on energetic resources allows for the differentiation of burnout from the stress appraisal process and the coping that results from feeling burnout.

To further understand how Conservation of Resources theory relates to burnout, researchers have examined how the theory can be applied to explaining the conditions under which burnout arises. So, various structural and interpersonal aspects of a job can act as resources that impact the process of burnout. For example, Wilk and Moynihan (2005) examined the role of one's supervisor support in predicting burnout. They found that burnout levels varied at a supervisor level rather than at a job level. While one would expect burnout to vary across jobs there are differences between supervisor groups indicating that supervisor support is a resource that can protect against burnout.

As seen with supervisor support in the study discussed above, environmental (work) resources appear to be more powerful than personal resources in explaining burnout (Maslach, 1993). The work resources suggested originally by Hobfoll and Shirom (2001) include social support, perceived control over ones' work environment

and autonomy. However, this does not mean that personal resources cannot be used with Conservation of Resources theory and burnout. Optimism and coping style are two personal resources used to predict burnout in an examination of personal resources (Riolli & Savivki (2003). It was found that in situations with lower work resources such as decreased peer support and autonomy then personal resources can moderate the relationship with burnout such that the symptoms of burnout are mitigated with the use of coping resources and optimism.

As mentioned above, social support was one of the original environmental resources suggested by Hobfoll and Shirom (2001) and research has shown that it is a consistent predictor of burnout (Halbesleben, 2006). Social support can be seen in both a work and nonwork context making it a unique resource to predict burnout. Work social support includes coworker and supervisor support while nonwork social support can include help at home and good relationships with family members. Both work and nonwork social support have been used to predict burnout yet there was not a general consensus on whether the different forms of social support differently impacted the various symptoms of burnout (Hobfoll, 2001). Meta-analytic results show that work-related social support is more closely related to emotional exhaustion symptoms likely due to its more direct relationship with job demands (Halbesleben, 2006). In contrast, nonwork related social support is more closely linked to depersonalization and reduced personal accomplishment as these symptoms of burnout have a weaker relationship with job demands.

In a meta-analysis of burnout, job resources and demands, Conservation of Resources theory was used to explain why burnout occurred (Alarcon, 2011). While burnout reflects the continuous depletion of ones' energetic coping resources, this study examined the addition of high demands to the burnout process. Specifically, the addition of role ambiguity, role conflict and workload were used as demands in this analysis and were found to be significant predictors of burnout. These demands were strongest in predicting emotional exhaustion symptoms of burnout. This is in line with Conservation of Resources theory as this theory predicts that during the burnout process exhaustion should occur first and lead to depersonalization and reduced personal accomplishment. While those symptoms fall under Maslach's model of burnout, the theoretical process of resource depletion falls under the SMBM as burnout is the depletion of energetic resources.

Having reviewed different conceptual understandings of burnout and varying predictors of burnout it is important to now review additional organizational outcomes that occur when an individual has the symptoms of burnout. Burnout has been tied to job satisfaction, turnover, increased work related stress, and engagement amongst other outcomes. As burnout originated in the helping professions, much of the research on burnout outcomes relate specifically to the health care industry (Schaufeli & Enzmann, 1998). While these are important outcomes to consider as burnout levels are highly prevalent in these professions, these outcomes do not generalize to all professions so this review will not heavily focus on these findings.

However, it is not appropriate to ignore health care-related outcomes as much of the literature deals with this industry and professions such as physicians, nurses and other care givers. When examining the outcomes of burnout on primary care physicians researchers found less job satisfaction and increased intent to leave their practice when individuals reported feeling burnt out (Rabatin et al., 2015). Further, it was found that they perceived their workplace as more chaotic and with increased time pressure when visiting with each patient (Rabatin et al., 2015). Additional research has shown additional negative outcomes as it relates to the patient experience when the health care professional is experiencing burnout. First, burnout is associated an increased number of patient falls, infections, complaints and medical errors when their nurse is experiencing burnout (Spence Laschinger & Leiter, 2006). Beyond this, nurse burnout has been linked to decreased patient satisfaction and increased perceptions of a less safe environment for patients (Halbesleben, Wakefield, Wakefield & Cooper, 2008).

Looking beyond health care-related outcomes, one of the major outcomes examined in burnout literature is turnover. Burnout and turnover have been studied both in looking at the direct relationship between burnout and each outcome, but also studies have considered possible moderators and mediators. With the direct relationship, increased turnover intentions are likely to occur as a result of burnout (Kahill, 1998; Lu & Gursoy, 2016).

One of the moderators found for this relationship is generational differences in work centrality (Lu & Gursoy, 2016). Millennials as compared to Baby Boomers were more likely to leave their job when experiencing burnout. The researchers attributed this

to Millennials allocating more of their emotional exhaustion on aspects of their job than Baby Boomers do. A mediator in this relationship between burnout and turnover is workplace incivility (Rahim & Cosby, 2016). With this mediator, the presence of workplace incivility and bulling lead to increased turnover intentions beyond just burnout alone.

To further understand the relationship between turnover and burnout, individual differences have been considered. Swider and Zimmerman (2010) examined how the Big 5 personality traits impact burnout and turnover and found that all Big 5 traits act as moderators. From these results, neuroticism and extraversion had the strongest effect size thus having the strongest exacerbating and buffering effects respectively (Swider & Zimmerman, 2010).

Beyond just turnover there have been a number of other outcomes that result individuals are experiencing burnout. One such outcome is job satisfaction, where job satisfaction decreases as burnout increases (Kahill, 1998). This finding has been replicated across a number of professions including nurses, engineers and teachers, indicating that lowered job satisfaction is a key outcome of burnout (Bacharch, Bramberger & Conlet, 1991; Brackett, Palomera, Mojsa-Kaja, Reyes & Salovey, 2010). Other than satisfaction, there has been shown to be a link between burnout and workplace safety (Nahrgang, Morgeson & Hofmann, 2011). In this relationship, the number of adverse events along with workplace accidents and injuries increased alongside burnout.

One final outcome of burnout worth noting is job performance; as burnout increases, job performance, specifically task performance and adaptivity to change,

decrease (Taris, 2006). This relationship, however, has been shown to be weaker than one would assume. This has been explained by Demerouti, Bakker and Leiter (2014) who showed that the use of compensation strategies can buffer against negative effects of burnout. Compensation strategies include techniques such as job crafting and seeking additional resources to meet goals when the original resources are no longer available. This is explained via Conservation of Resources theory where compensation strategies play an instrumental role in dealing with the loss of resources and to buffer against further resource loss.

In summary, burnout is the feeling of physical, emotional and cognitive exhaustion resulting from the continuous depletion of ones' energetic coping resources from exposure to job-related stressors (Shirom, 1989; 2003). As burnout results from the depletion of resources, it is an apt focus for the study at hand as this study seeks to show how the depletion of resources in a dynamic loss spiral influences individuals. Research has shown how a number of specific demands and resources impact burnout, but this study will expand on the findings in those studies with the use of perceived income adequacy and perceived organizational support.

Health

There are a number of reasons to study both physical and mental health when conducting organizational research. First, organizations have become increasingly aware of the cost of healthcare and the potential benefits of having healthy workers (Aldana, 2001). For instance, an individual's health has been found to be predictive of their job performance (Lyubomirsky, King & Diner, 2005). By understanding what resources and

demands of the organization impact health and well-being, organizations will be more apt to address these issues to improve the health of their workforce.

Another important reason to study health outcomes is that many components of the workplace influence an individual's health and well-being. For instance, workplaces can directly impact health with poor safety conditions causing injury but also, indirectly via stress impacting ones' psychological well-being. Beyond just the workplace influencing health, health can be an important predictor of organizational effectiveness (Steffens, Haslam, Schuh, Jetten & van Dick 2017). Health and well-being can influence underperformance, absenteeism and turnover, all of which negatively impact organizational effectiveness.

Health can be defined as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (World Health Organization, 2006). With this definition, it is clear that health can be defined in any number of terms including physical aspects, such as BMI or presence of illness, and psychological aspects such as mental health and psychological well-being. For the purpose of this study, health will be determined by six components: physical functioning, role functioning, social functioning, pain, current health perceptions and self-rated physical health. These were chosen as they attempt to fully reflect the definition of health as presented by the World Health Organization.

Physical functioning refers to one's ability to perform activities that are normal for individuals in good physical health (Stewart, Ware & Brook, 1982). This includes activities relating to self-care, mobility, physical activities, role activities and leisure

activities. By defining physical functioning with multiple aspects of daily life it allows for a global conceptualization of physical health, rather than a model of physical health focused on one area of physical health.

Role functioning, in this study, is the ability to successfully complete work tasks without any interference from health issues (Stewart, Ware, & Brook, 1982). For example, a healthy individuals as defined based on role functioning is able to attend work and complete all of the types of work expected of them. If one's health limits them from completing these tasks they would be considered less healthy as defined by role functioning.

Social functioning refers to the ability to develop and maintain major social relationships. In addition, social functioning encompasses mental health symptoms based on the four major mental health dimensions of anxiety, depression, behavioral-emotional control and psychological well-being (Davies, Sherbourne, Peterson & Ware, 1988).

Pain, for the purposes of this study is defined as the amount of bodily pain an individual has experienced in the last four weeks. The use of pain as a component of health has been shown to be relevant for organizational psychology as pain can negatively impact productivity and performance, both task and contextual (Byrne & Hochwater, 2006; Dagenais et al., 2008). When looking at job-limiting pain, pain was found to be negatively related to job satisfaction and other job-related attitudes, showing an influence in ones' perception of their job not just their job performance (Ferris, Rogers, Blass & Hochwarter, 2009).

Current health perceptions and self-rated physical health refer to an individual's current perceptions of their health (Davies & Ware, 1981). Using self-rated health measures has been established in the literature as an effective method of gathering health information on individuals. For instance, in organizational psychology, self-rated health has been used in studies ranging from interventions for safety and health to examining psychological resources impacting stress and health (Hammer et al., 2015; Schöllgen, Huxhold, Schüz & Tesch-Römer, 2011).

Conservation of Resources theory has been used across a number of studies to explain health outcomes as a function of resources loss and gain. For instance, when considering mental health, psychological distress and sleep problems in this instance, have been shown to deteriorate in stressful situations such as military basic training (Williams et al., 2016). The introduction of unit cohesion trainings, a resource in Conservation of Resources theory, buffers against these negative mental health outcomes (Williams et al., 2016). Looking at continual resources loss, as seen in loss spirals, it was found that resources loss was related to anxiety, depression and PTSD in fisherman impacted by the Exxon-Valdez oil spill (Arata, Picou, Johnson & McNally, 2000). The initial resource loss and resulting additional losses had a long term impact as Arata and colleague's (2000) findings were determined six years after the incident occurred.

When looking at a broader conceptualization of health including health-related behaviors, chronic illness and mental health perceptions, Conservation of Resources theory was used to explain how aversive childhood experiences can explain poor health (Nurius, Green, Logan-Greene, Longhi & Song, 2016). The authors argued that early

development resource loss that occurs with averse events predisposes individuals to further resource loss leading to poor health later on in life. Looking specifically at physical aspects of health, increased work and family demands are predictive of increases in body mass index (BMI) (Kramer & Chung, 2015). Kramer and Chung (2015) argue that increased work demands deplete energy and time resources leading to negative health outcomes. Additional support for this rationale is seen with individuals engaging in fewer health promoting behaviors when they experience a loss of time and energy resources (Brown & Trost, 2003; Nomaguchi & Bianchi, 2004).

Further support for utilizing health outcomes in this study comes from the literature on the relationship between health and both economic-related constructs and between health and perceived organizational support. First, with perceived organizational support, high levels of perceived organizational support have been shown to mitigate the negative effects of pain on job performance (Byrne & Hochwarter, 2006). As perceived organizational support provides individuals with increased perceptions of control over their work environment, this feeling of control allows individuals to manage their pain and exert fewer cognitive resources trying to adapt to changing situations (Byrne & Hochwarter, 2006; Share & Share, 1995). Similarly, the increased level of control associated with perceived organizational support has been shown to reduce depression levels for individuals with high perceived organizational support. (Thomas & Ganster, 1995).

Perceived organizational support has been shown to be positively related to employee psychological well-being (Panaccio & Vandenberghe, 2009). So, as an

individual experiences increases in perceived organizational support their psychological well-being improves. This result is compelling in showing the relationship between perceived organizational support and well-being as Panaccio and Vandenberghe (2009) controlled for workplace stressors, attempting to isolate the relationship between just perceived organizational support and well-being. As controlling for stressors shows that the changes in well-being are explained with perceived organizational support rather than due to stressors in the work environment.

With economic variables, a number of established connections exist between economic concerns and an individual's health and well-being. Research in social psychology, sociology, economics, health psychology, and gerontology has linked income and economic deprivation to both physical and mental health outcomes (Sinclair & Cheung, 2016). For example, when examining physical, functional and subjective measures of health, lower socioeconomic status individuals have comparatively lower levels of health compared to individuals from higher socioeconomic status groups (Schöllgen, Huxhold, Schüz & Tesch-Römer, 2011). As individuals experiencing economic deprivation or who are from a lower socioeconomic status tend to experience resource loss and have fewer opportunities to gain new resources, these individuals experience stress and negative health outcomes.

In summary, health is an important construct for organizations to consider as it is both related to organizational functioning and impacted by organizations. Further, negative health outcomes can be explained via the loss of resources in Conservation of Resources theory as shown in a number of studies discussed earlier in this chapter. This

theoretical connection along with existing relationships between economic concerns and perceived income adequacy makes health an apt construct to use as an outcome in this proposed study.

CHAPTER FOUR

HYPOTHESES

As stated earlier in this dissertation, this study seeks to examine the dynamic processes that contribute to burnout and negative health outcomes for individuals at work. By combining multiple forms of resources, specifically perceived income adequacy, job autonomy and perceived organizational support, and both outcomes mentioned above this study provides a method of testing the loss spirals described in Conservation of Resources theory using three waves of data collection. This method will include a series of cross sectional, reciprocal and longitudinal hypotheses to fulfill the requirements of testing loss spirals set forth by Salanova and colleagues (2010) and tested by Heath and colleagues (2012). The proposed model to be tested in this proposed study can be seen in Figure 1.

Cross Sectional Hypotheses

This study will pool both resources and outcomes to create one resource variable and one outcome variable that encapsulates multiple forms of resources (perceived income adequacy, perceived organizational support and job autonomy) and both forms of outcomes (health and burnout). This is done based on the practices established by Heath and colleagues (2012) to empirically test loss spirals. Further, resource pooling into one variable will allow for this study to consider Conservation of Resources theory under the perspective of Hobfoll's resource typology. Hobfoll (1989) identifies four forms of resources: objects, conditions, personal characteristics and energies. This study creates a resource pool using two of these types, conditions and energies. By pooling resources

multiple forms of resources will be able to be examined at one time. Resources will be modeled as a latent variable which will be measured by the observed variables perceived organizational support, perceived income adequacy and job autonomy.

It is predicted that at all three time points measured within this study resources will have a negative relationship with outcomes. Individuals with fewer resources will report poorer health outcomes and higher burnout. This is based on Conservation of Resources theory where stress occurs when there is a threat of resource loss, when there is an actual resource loss, or when there is an insufficient resource gain following resource loss (Hobfoll, 2001). Stress has been shown in the literature to result in the presence of burnout and negative health further explaining the relationships in this study (Kramer & Chung, 2015; Shirom, 1989; 2003). Similarly to resources, outcomes will be modeled as a latent variable which will be measured by observed variables health and burnout.

Hypothesis 1a: At time one, resources (perceived income adequacy, perceived organizational support and job autonomy) will be negatively related to outcomes (burnout and health).

Hypothesis 1b: At time two, resources (perceived income adequacy, perceived organizational support and job autonomy) will be negatively related to outcomes (burnout and health).

Hypothesis 1c: At time three, resources (perceived income adequacy, perceived organizational support and job autonomy) will be negatively related to outcomes (burnout and health).

Resources Over Time Hypotheses

Based on the momentum patterns of resources in Conservation of Resources theory, loss spirals show an increasing fast and impactful process of resource depletion. So, as resources deplete, additional resource loss occurs sooner and is more influential on the stress process (Hobfoll, 1989; 2001). This has been modeled in previous literature by examining the relationships between resources as they deplete, both resource to resource and the same resources across time (Cuyer et al., 2012; Demerouti, Bakker & Butler, 2004; Heath et al., 2012). Further, one of the key principles towards empirically testing loss spirals includes modeling the relationships between resources over time (Salanova et al., 2010).

This study predicts to see changes in the levels of resources across three time points in the current study. To model loss spirals, there should be an increasingly strong relationship between the pooled resources at each time point. So, this study hypothesizes, resources at one time point will predict the level of resources at the next time point and that the relationship between time points of resources will be stronger between time two and three than between time one and two.

Hypothesis 2a: Time one resources (perceived income adequacy, perceived organizational support and job autonomy) will be positively related to time two resources.

Hypothesis 2b: Time two resources (perceived income adequacy, perceived organizational support and job autonomy) will be positively related to time three resources.

Hypothesis 2c: The relationship between time two and time three resources (perceived income adequacy, perceived organizational support and job autonomy) will be stronger than the relationship between time one and time two resources (perceived income adequacy, perceived organizational support and job autonomy).

Outcomes Over Time Hypotheses

As described above in the proceeding section, when loss spirals occur, resource loss is more impactful on the stress process. This should result in increased outcomes of stress as the loss spiral continues. To test this, the presence of negative health outcomes at one time point should predict increased presence of negative health outcomes at the next time point. Therefore, the presence of negative health outcomes and burnout will be positively related at each time point.

Hypothesis 3a: Time one outcomes (burnout and health) will be positively related to time two outcomes.

Hypothesis 3b: Time two outcomes (burnout and health) will be positively related to time three outcomes.

Hypothesis 3c: The relationship between time two and time three outcomes (burnout and health) will be stronger than the relationship between time one and time two outcomes (burnout and health).

Longitudinal and Reciprocal Hypotheses

To properly test loss spirals, there must be the presence of both normal and reversed causation between study variables (Salanova, et al., 2010). For the current study, this will be represented with the longitudinal relationships between both resources to

outcomes and then outcomes to resources. Further under this principle, the two causal relationships must be interdependent for a loss spiral to actually be occurring (Maruyama, 1963). Meaning that both paths must be significant in the same model rather than only one path.

For the resource to outcome hypotheses, similarly to the cross sectional hypotheses, it is predicted that resources will have a negative relationship with outcomes, so as resources deplete, burnout and the presence of negative health outcomes will increase. This is based on Conservation of Resources theory where stress occurs when there is a threat of resource loss, when there is an actual resource loss, or when there is an insufficient resource gain following resource loss (Hobfoll, 2001). For the longitudinal hypotheses, resources will predict increased negative outcomes at the following time point.

With the reciprocal outcome to resource hypotheses, feedback loops are seen where the outcomes are linked with future resources as described in the work done by Maruyama (1963). For this study, that means that outcomes identified by health and burnout, will negatively predict resources identified by perceived income adequacy, perceived organizational support and job autonomy. Meaning that as there is an increased presence of poor health and burnout there will be a decrease in the resources of interest.

Hypothesis 4a: Time one resources (perceived income adequacy, perceived organizational support and job autonomy will negatively predict time two outcomes (burnout and health).

Hypothesis 4b: Time two resources (perceived income adequacy, perceived organizational support and job autonomy) will negatively predict time three outcomes (burnout and health).

Hypothesis 4c: Time one outcomes (burnout and health) will negatively predict time two resources (perceived income adequacy, perceived organizational support and job autonomy).

Hypothesis 4d: Time two outcomes (burnout and health) will negatively predict time three resources (perceived income adequacy, perceived organizational support and job autonomy).

CHAPTER FIVE

METHOD

Method

This study will utilized data collected from a longitudinal study completed on Amazon's Mechanical Turk (MTurk) that assessed participants on a variety of work, health, and economic-related items at three time points.

Procedure

As a part of a larger study assessing income, workplace behaviors and health, this study was administered to employed members of MTurk. With this, a link to the Qualtrics survey was posted on MTurk, and participants were invited to complete a 30-minute questionnaire. Over the last decade, MTurk has gained popularity as a platform for data collection among social scientists as the platform has been shown to provide valid, reliable and generalizable data (Buhrmester et al., 2011; Cheung, Burns, Sinclair & Sliter, 2016; Horton et al., 2011; Mason & Suri, 2011; Sheehan & Pittman, 2016). Samples including MTurk workers have been shown to provide equally or more diverse participants as compared to traditional sampling methods, supporting the use of MTurk samples in industrial-organizational psychology as the field and this study seek to represent the wide variety of workers in the United States (Buhrmester et al., 2011).

While MTurk has its strengths as a data collection platform there are still methodological concerns that must be addressed when utilizing this platform (Cheung et al., 2016). One such concern is that participants may be inattentive and respond to items in a careless manner without reading the instructions or items. To combat this issue, the

use of attention check items is recommended (Cheung et al., 2016). Attention check items instruct participants to follow specific directions to demonstrate attentiveness. This study utilized three attention check items embedded in the survey to screen out careless responders.

The 775 participants who completed the Time 1 survey in its entirety and passed all attention checks were invited six weeks later to complete a second survey. Up to three reminder emails were sent to increase participants. Of these, 462 completed the second survey and passed all attention checks. These 462 participants from Time 2 were invited for the third time, 12 weeks after the initial survey administration. This time delay between waves was chosen as previous literature has shown changes in organizationally relevant variables across time periods of at least two months (Tims, Bakker, & Derks, 2013). Therefore, using 6-week intervals between data collection should allow for changes in the levels of the constructs proposed for this study. Of these, 360 participants completed the Time 3 survey and passed all attention checks. Participants were compensated $4.00 for each of the three surveys.

All variables were measured at all three time points, this includes all resources and outcomes used in this study. Additionally, demographic questions such as age, gender, marital status and number of dependents were administered.

As mentioned above, in addition to the demographic questions and the items for each of the measures, the participants had to successfully complete attention check items for their data to be included in the final sample. Each wave of data collection included three attention check items, that required participants to choose the indicated response for

each statement. For example, an example attention check item is "Please select 'disagree' for this question." If participants failed an attention check item, they then had a second chance to complete the survey before being removed entirely. The use of attention checks have been shown to improve the quality of the data obtained from MTurk as it encourages participants to allocate their attentional resources towards the completion of the measures (Hauser & Schwartz, 2015). Further data cleaning involved screens for duplicate IP addresses or duplicate MTurk Worker ID numbers were completed and duplicates were removed. Based on these cleaning procedures, 170 participants were removed from the data set creating the 775 total participants forming the Time 1 sample.

Participants

Using MTurk provides researchers several benefits for conducting organizational research. One such benefit is that the online sampling technique allows for one to gather a diverse sample from a variety of career fields to best represent the overall population (Buhrmester, Kwang & Gosling, 2011). The 775 participants who completed all screening procedures at Time 1 were on average 35.34 years of age (*SD* = 10.96) and about half (55.7%) male (42.7% female; 1.6% prefer not to say). 46.4% of the sample was both single and never married, with 45.2% married and 7.1% divorced, widowed or separated. In terms of educational attainment, 12.7% of participants held a high school degree, 23.3% have some college experience, 11% held an Associate's degree, 39.7% held a Bachelor's degree, 9.6% held a Master's degree and 1.7% held a doctoral degree.

Participants represented all 23 of O*NET's standard occupational classification groups. The top five occupational groups include sales (13.4%), computer and

mathematical occupations (12.2%), management (10.7%), administrative support (7.9%) and education (6.2%). On average, participants had been in their job for 7.15 years (*SD* = 5.32) and in their current position for 5.77 years (*SD* = 4.32).

Measures

Perceived Income Adequacy

To measure perceived income adequacy, a scale developed for this data collection was used based on measures previously used by Sears (2008) and Cheung (2014). This measure assessed both individual's basic needs and lifestyle wants to adequately cover the full construct. An example item for basic needs is "I am able to pay my expenses without overdrawing my bank account." An example item for lifestyle wants is "I can save for retirement at the rate I want to save." All of these items were on a seven point Likert scale with higher scores indicating agreement, based on Sears (2008). Needs and wants will be considered together because they tend to be highly correlated. Reliability analyses for each time point were completed to demonstrate strong levels of reliability for the scale in the data set, at Time 1 and Time 2 Cronbach's alpha was .93 and at Time 3 it was .94.

Perceived Organizational Support

To measure perceived organizational support, a shortened version of Eisenberger, Huntington, Hutchinson and Sowa's (1986) perceived organizational support scale was utilized. The original scale includes 36-items which were shortened for this data collection to four items. The practice of shortening the full scale is recommended by Rhoades and Eisenberger (2002) as "the original scale is unidimensional and has high

internal reliability, the use of shorter versions does not appear problematic." (p. 699). The shortened version is based on the higher loading items that cover both the valuation of employee contribution and care for employee well-being. A sample item for this scale is "My organization strongly considers my goals and values." All of these items are measured on a seven point Likert scale with higher scores indicating agreement. Reliability analyses for each time point were completed to demonstrate strong levels of reliability for the scale in the data set, at Time 1 Cronbach's alpha was .84 and Time 2 it was .88 and at Time 3 it was .89.

Burnout

Burnout was measured with the Shirom-Melamed Burnout Measure (SMBM) developed by Shirom and Melamed (2006). This scale consists of three subscales: physical fatigue, cognitive weariness and emotional exhaustion. These subscales are collapsed into one combined measure based on practices established in the literature (Shirom & Melamed, 2006). An sample item for physical fatigue is "I felt physically drained." A sample item for cognitive weariness is "I felt like I was not thinking clearly." A sample item for emotional exhaustion is "I was not capable of investing emotionally in coworkers." All of these items are measured on a seven point Likert scale with higher scores indicating agreement for how a participant felt at work over the past month. Reliability analyses for each time point were completed to demonstrate strong levels of reliability for the scale in the data set; at Time 1, Time 2 and Time 3 Cronbach's alpha was .92.

Health

In this study, health was measured using the 20-item Short Form Health Survey (SF-20) creased by the RAND Cooperation for the Medical Outcomes Study (Stewart, Ware & Brook, 1982). This measure of health outcomes is designed to reduce respondent burden while also achieving a full picture of multiple health dimensions. The dimensions covered in the SF-20 include: physical functioning, role functioning, social functioning, pain, current health perceptions and self-rated physical health. All items are scored such that higher scores indicate agreement and increased frequency of events. Necessary items are reversed coded and then scaled such that higher scores indicate poorer health outcomes. Some sample items include "How much of the time, during the past month, has your health limited your social activities?", "How much bodily pain have you had during the past four weeks?", and " I have been feeling bad lately." Reliability analyses for each time point were completed to demonstrate strong levels of reliability for the scale in the data set, at Time 1 and Time 2 Cronbach's alpha was .84 and Time 3 it was .83

Job Autonomy

To measure job autonomy, the Work Design Questionnaire was used (Morgeson & Humphrey, 2006). This 9-item scale consists of three facets: freedom in work scheduling, freedom in decision making and freedom in work methods. These facets will be combined into one variable based on the practices established by Morgeson and Humphrey (2006). A sample item for this scale is "My job allows me to plan how I do my work." All of the items were measured on a seven point Likert scale with higher scores indicating agreement. Reliability analyses for each time point were completed to

demonstrate strong levels of reliability for the scale in the data set, at Time 1 Cronbach's alpha was .96, and at Time 2 and Time 3 it was .97.

Data Analysis

All statistical analyses proposed in this study were completed via SPSS and EQS. Prior to testing the hypotheses, descriptive statistics, including means and standard deviations, were calculated to ensure a normal distribution. Additionally, internal consistency statistics were determined to ensure the scales meet acceptable standards for reliability and to confirm the Cronbach's Alphas previously determined by the literature. Additionally, for measures that include an existing factor structure (perceived income adequacy, job autonomy, burnout and health) confirmatory factor analyses were completed to confirm the factor structure.

The hypothesized paths as seen in Figure 1 were analyzed via structural equation modeling (SEM) in EQS. Using SEM allows for a better understand the complex relationships between the variables, including how well the proposed model fit the data and whether alternative models exist. These alternative models were assessed using Lagrange Multiplier (LM) and Wald tests, which examine whether paths should be added or removed to the model. Following the recommendation of Hu and Bentler (1999), the Comparative Fit Index (CFI), root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR) were used to assess model fit. Further following their recommendations, the CFI should have a value close to .95 and the RMSEA and SRMR should have values lower than .06 and .08, respectively.

The hypothesized model represents Hypothesis 1a-1c, Hypothesis 2a-2b, Hypothesis 3a-3b, and Hypothesis 4a-4d. In this model, resources is modeled formatively with perceived income adequacy, perceived organizational support and job autonomy as observed variables measuring resources as a latent factor at each of the three time points. A formative model was chosen as the resource variable is defined by the measures chosen to represent it with the direction of causality going from each construct to the resource variable. This model additionally contains paths for the cross-sectional hypotheses represented by Hypothesis 1a-1c. Longitudinal paths between resources represent Hypothesis 2a and 2b, similarly longitudinal paths between outcomes represent Hypothesis 3a and 3b. Hypothesis 4a and 4b are represented by the longitudinal paths between resources and outcomes and Hypothesis 4c and 4d are represented by the longitudinal paths between outcomes and resources. For all of the path hypotheses to be supported, the model must have significant path coefficients for each hypothesized pathway along with appropriate model fit as defined above.

To test the relative strength hypotheses (Hypothesis 2c and Hypothesis 3c) the path coefficient of the relationship between Time 1 and Time 2 resources/outcomes and the path coefficient of the relationship between Time 2 and Time 3 resources/outcomes were compared. When comparing these paths, the confidence intervals were examined and the strength of the paths were determined via the confidence intervals. If the two confidence intervals are overlapping, no difference between the paths exists. If the confidence intervals do not overlap then there is a difference in the strengths of the paths.

CHAPTER SIX

RESULTS

Confirmatory Factor Analyses

Prior to testing my hypotheses, I conducted a series of confirmatory factor analyses (CFA) using EQS 6.3 (Bentler, 2016) to examine the extent to which the factor structure of the selected variables fit the measures generated for this data collection. These analyses were completed for perceived income adequacy, job autonomy, perceived organizational support, burnout and health at all time points. With all CFA models, factor variances were fixed to one while covariances and error covariances were allowed to be freely estimated. For the tests of model fit, robust estimation was used to determine goodness of fit indices given the large normalized estimate as recommended by Yuan and Bentler (1998).

Perceived Income Adequacy Time One

First, the two-factor structure established by Sears (2008) and Cheung (2014) was tested for perceived income adequacy at Time One. The initial test of the model indicated acceptable fit between the proposed model and the observed model, SBχ^2 (34) = 157.05, $p < .001$, CFI = .97, RMSEA = .07 [90% CI: (.06, .08)]. The factor loadings were then assessed to determine how well they fit onto each factor. All items had satisfactory loadings as they all loaded more than .70, meaning at least 50% of the item variance was true score variance. The factor loadings for each item can be seen in Table 1.

The results of the LM test were then examined to determine how the model fit could be improved. To improve model fit, one error covariance suggested by the LM test

was added to two items within the needs factor. This error covariance was added to the items "I can afford the basic transportation I need." and "I am able to pay my expenses without overdrawing my bank account." After adding the error covariance the model fit statistics show some improvement on the original model, $SB\chi^2$ (33) = 147.72, $p < .001$, CFI = .97, RMSEA = .07 [90% CI: (.06, .08)]. This change was significant for the chi-square, $\Delta SB\chi^2$ (1) = 2.16 , $p = .02$, therefore, the error covariance was added to the final model.

For comparative purposes, an alternative model was tested to ensure a simpler factor structure did not fit the data as well as the two factor model. A one-factor structure combining needs and wants was assessed to show the two-factor structure best represents perceived income adequacy at time one. The one-factor model had poor fit with these data, $SB\chi^2$ (35) = 1025.60, $p < .001$, CFI = .74, RMSEA = .19 [90% CI: (.18, .20)], showing that the one-factor structure does not explain the data more simply, as seen in Table 2.

Perceived Income Adequacy Time Two

First, the two-factor structure established by Sears (2008) and Cheung (2014) was tested for perceived income adequacy at Time Two. The initial test of the model indicated good fit between the proposed model and the observed model, $SB\chi^2$ (34) = 80.61, $p < .001$, CFI = .98, RMSEA = .05 [90% CI: (.04, .07)]. The factor loadings were then assessed to determine how well they fit onto each factor. All items had satisfactory loadings as they all loaded more than .70, meaning at least 50% of the item variance was true score variance. The factor loadings for each item can be seen in Table 3.

The results of the LM test were then examined to determine how the model fit could be improved. The LM test did not indicate any additional pathways or error covariances added to the model would make an impact on model fit. For comparative purposes, an alternative model was tested to ensure a simpler factor structure did not fit the data as well as the two factor model. A one-factor structure combining needs and wants was assessed to show the two-factor structure best represents perceived income adequacy at time two. The one-factor model had poor fit with these data, $SB\chi^2$ (35) = 562.84, $p < .001$, CFI = .78, RMSEA = .19 [90% CI: (.17, .20)], showing that the one-factor structure does not explain the data more simply, as seen in Table 4.

Perceived Income Adequacy Time Three

First, the two-factor structure established by Sears (2008) and Cheung (2014) was tested for perceived income adequacy at Time Three. The initial test of the model indicated acceptable fit between the proposed model and the observed model, $SB\chi^2$ (34) = 104.79, $p < .001$, CFI = .96, RMSEA = .08 [90% CI: (.06, .09)]. The factor loadings were then assessed to determine how well they fit onto each factor. All items had satisfactory loadings as they all loaded more than .70, meaning at least 50% of the item variance was true score variance. The factor loadings for each item can be seen in Table 5.

The results of the LM test were then examined to determine how the model fit could be improved. To improve model fit, one error covariance suggested by the LM test was added to two items within the wants factor. This error covariance was added to the items “My current income allows me to have the lifestyle I want” and “I can afford the type of housing I want.” After adding the error covariance the model fit statistics show

some improvement, $SB\chi^2$ (32) = 90.54, $p < .001$, CFI = .97, RMSEA = .05 [90% CI: (.05, .10)]. This change was significant for the chi-square, $\Delta SB\chi^2$ (1) = 21.93 , $p < .001$, therefore, the error covariance was added to the final model.

For comparative purposes, an alternative model was tested to ensure a simpler factor structure did not fit the data as well as the two factor model. A one-factor structure combining needs and wants was assessed to show the two-factor structure best represents perceived income adequacy at time one. The one-factor model had poor fit with these data, $SB\chi^2$ (35) = 539.67, $p < .001$, CFI = .74, RMSEA = .20 [90% CI: (.19, .22)], showing that the one-factor structure does not explain the data more simply, as seen in Table 6.

Job Autonomy Time One

First, the three-factor structure established by Morgeson and Humphrey (2006) was tested for job autonomy at Time One. The initial test of the model indicated good fit between the proposed model and the observed model, $SB\chi^2$ (24) = 24.25, $p < .001$, CFI = 1.00, RMSEA = .004 [90% CI: (.001, .03)]. The factor loadings were then assessed to determine how well they fit onto each factor. All items had satisfactory loadings as they all loaded more than .70, meaning at least 50% of the item variance was true score variance. The factor loadings for each item can be seen in Table 7.

The results of the LM test were then examined to determine how the model fit could be improved. The LM test did not indicate any additional pathways or error covariances added to the model would make an impact on model fit. For comparative purposes, an alternative model was tested to ensure a simpler factor structure did not fit

the data as well as the three factor model. A one-factor structure combining freedom in work scheduling, freedom in decision making and freedom in work methods was assessed to show the three-factor structure best represents job autonomy at Time One. The one-factor model had acceptable fit with these data, $SB\chi^2$ (27) = 72.40, $p < .001$, CFI = .90, RMSEA = .02 [90% CI: (.03, .06)], but the three factor model shows better fit showing therefore the three-factor model will be used, as seen in Table 8.

Job Autonomy Time Two

First, the three-factor structure established by Morgeson and Humphrey (2006) was tested for job autonomy at Time Two. The initial test of the model indicated good fit between the proposed model and the observed model, $SB\chi^2$ (24) = 30.80, $p < .001$, CFI = .99, RMSEA = .01 [90% CI: (.01, .05)]. The factor loadings were then assessed to determine how well they fit onto each factor. All items had satisfactory loadings as they all loaded more than .70, meaning at least 50% of the item variance was true score variance. The factor loadings for each item can be seen in Table 9.

The results of the LM test were then examined to determine how the model fit could be improved. The LM test did not indicate any additional pathways or error covariances added to the model would make an impact on model fit. For comparative purposes, an alternative model was tested to ensure a simpler factor structure did not fit the data as well as the two factor model. A one-factor structure combining freedom in work scheduling, freedom in decision making and freedom in work methods was assessed to show the three-factor structure best represents job autonomy at time two. The one-factor model had acceptable fit with these data, $SB\chi^2$ (27) = 104.64, $p < .001$, CFI =

.97, RMSEA = .08 [90% CI: (.06, .10)], but the two factor model shows better fit showing therefore the three-factor model will be used, as seen in Table 10.

Job Autonomy Time Three

First, the three-factor structure established by Morgeson and Humphrey (2006) was tested for job autonomy at Time Three. The initial test of the model indicated good fit between the proposed model and the observed model, $SB\chi^2$ (24) = 16.68, $p < .001$, CFI = 1.00, RMSEA = .001 [90% CI: (.01, .02)]. The factor loadings were then assessed to determine how well they fit onto each factor. All items had satisfactory loadings as they all loaded more than .70, meaning at least 50% of the item variance was true score variance. The factor loadings for each item can be seen in Table 11.

The results of the LM test were then examined to determine how the model fit could be improved. The LM test did not indicate any additional pathways or error covariances added to the model would make an impact on model fit. For comparative purposes, an alternative model was tested to ensure a simpler factor structure did not fit the data as well as the two factor model. A one-factor structure combining freedom in work scheduling, freedom in decision making and freedom in work methods was assessed to show the three-factor structure best represents job autonomy at time three. The one-factor model had acceptable fit with these data, $SB\chi^2$ (27) = 42.91, $p < .001$, CFI = .90, RMSEA = .02 [90% CI: (.01, .06)], but the two factor model shows better fit showing therefore the three-factor model will be used, as seen in Table 12.

Perceived Organizational Support Time One

First, the one-factor structure established by Rhoades and Eisenberger (2002) was tested for job autonomy at time one. The initial test of the model indicated good fit between the proposed model and the observed model, SBχ^2 (2) = 7.85, $p < .01$, CFI = .99, RMSEA = .06 [90% CI: (.02, .11)]. The factor loadings were then assessed to determine how well they fit onto each factor. All items had satisfactory loadings as they all loaded more than .70, meaning at least 50% of the item variance was true score variance. The factor loadings for each item can be seen in Table 13. The results of the LM test were then examined to determine how the model fit could be improved. The LM test did not indicate any additional pathways or error covariances added to the model would make an impact on model fit. Model fit indices can be seen in Table 14.

Perceived Organizational Support Time Two

First, the one-factor structure established by Rhoades and Eisenberger (2002) was tested for job autonomy at time two. The initial test of the model indicated good fit between the proposed model and the observed model, SBχ^2 (2) = 8.78, $p < .01$, CFI = .99, RMSEA = .06 [90% CI: (.03, .15)]. The factor loadings were then assessed to determine how well they fit onto each factor. All items had satisfactory loadings as they all loaded more than .70, meaning at least 50% of the item variance was true score variance. The factor loadings for each item can be seen in Table 15. The results of the LM test were then examined to determine how the model fit could be improved. The LM test did not indicate any additional pathways or error covariances added to the model would make an impact on model fit. Model fit indices can be seen in Table 16.

Perceived Organizational Support Time Three

First, the one-factor structure established by Rhoades and Eisenberger (2002) was tested for job autonomy at time three. The initial test of the model indicated good fit between the proposed model and the observed model, SBχ^2 (2) = 19.56, $p < .01$, CFI = .98, RMSEA = .06 [90% CI: (.09, .22)]. The factor loadings were then assessed to determine how well they fit onto each factor. All items had satisfactory loadings as they all loaded more than .70, meaning at least 50% of the item variance was true score variance. The factor loadings for each item can be seen in Table 17. The results of the LM test were then examined to determine how the model fit could be improved. The LM test did not indicate any additional pathways or error covariances added to the model would make an impact on model fit. Model fit indices can be seen in Table 18.

Burnout Time One

First, the three-factor structure established by Shirom and Melamed (2006) was tested for burnout at Time One. The initial test of the model indicated good fit between the proposed model and the observed model, SBχ^2 (74) = 183.95, $p < .001$, CFI = .99, RMSEA = .04 [90% CI: (.04, .05)]. The factor loadings were then assessed to determine how well they fit onto each factor. All items had satisfactory loadings as they all loaded more than .70, meaning at least 50% of the item variance was true score variance. The factor loadings for each item can be seen in Table 19.

The results of the LM test were then examined to determine how the model fit could be improved. To improve model fit, one error covariance suggested by the LM test was added to two items within the physical fatigue factor. This error covariance was added to the items “I felt tired” and “I felt physically drained.” After adding the error

covariance the model fit showed some improvement, $SB\chi^2$ (72) = 156.89, $p < .001$, CFI = .99, RMSEA = .04 [90% CI: (.03, .05)]. This change was significant for the chi-square, $\Delta SB\chi^2$ (2) = 29.08 , $p < .001$, therefore, the error covariance was added to the final model.

For comparative purposes, an alternative model was tested to ensure a simpler factor structure did not fit the data as well as the two factor model. A one-factor structure combining physical fatigue, cognitive weariness and emotional exhaustion was assessed to show the three-factor structure best represents burnout at time one. The one-factor model had poor fit with these data, $SB\chi^2$ (77) = 1348.91 $p < .001$, CFI = .91, RMSEA = .14 [90% CI: (.14, .15)], showing that the one-factor structure does not explain the data more simply, as seen in Table 20.

Burnout Time Two

First, the three-factor structure established by Shirom and Melamed (2006) was tested for burnout at time two. The initial test of the model indicated good fit between the proposed model and the observed model, $SB\chi^2$ (74) = 142.02, $p < .001$, CFI = .99, RMSEA = .05 [90% CI: (.03, .06)]. The factor loadings were then assessed to determine how well they fit onto each factor. All items had satisfactory loadings as they all loaded more than .70, meaning at least 50% of the item variance was true score variance. The factor loadings for each item can be seen in Table 21.

The results of the LM test were then examined to determine how the model fit could be improved. To improve model fit, one error covariance suggested by the LM test was added to two items within the physical fatigue factor. This error covariance was

added to the items “I felt tired” and “I had no energy for going to work in the morning.” After adding the error covariance the model fit statistics showed some improvement, $SB\chi^2$ (71) = 96.95, $p < .001$, CFI = .99, RMSEA = .03 [90% CI: (.01, .04)]. This change was significant for the chi-square, $\Delta SB\chi^2$ (2) = 29.08 , $p < .001$, therefore, the error covariance was added to the final model.

For comparative purposes, an alternative model was tested to ensure a simpler factor structure did not fit the data as well as the two factor model. A one-factor structure combining physical fatigue, cognitive weariness and emotional exhaustion was assessed to show the three-factor structure best represents burnout at time two. The one-factor model had poor fit with these data, $SB\chi^2$ (77) = 1125.14 $p < .001$, CFI = .87, RMSEA = .18 [90% CI: (.17, .18)], showing that the one-factor structure does not explain the data more simply, as seen in Table 22.

Burnout Time Three

First, the three-factor structure established by Shirom and Melamed (2006) was tested for burnout at time three. The initial test of the model indicated good fit between the proposed model and the observed model, $SB\chi^2$ (74) = 103.63, $p < .001$, CFI = .99, RMSEA = .03 [90% CI: (.02, .05)]. The factor loadings were then assessed to determine how well they fit onto each factor. All items had satisfactory loadings as they all loaded more than .70, meaning at least 50% of the item variance was true score variance. The factor loadings for each item can be seen in Table 23.

The results of the LM test were then examined to determine how the model fit could be improved. The LM test did not indicate any additional pathways or error

covariances added to the model would make an impact on model fit. For comparative purposes, an alternative model was tested to ensure a simpler factor structure did not fit the data as well as the two factor model. A one-factor structure combining physical fatigue, cognitive weariness and emotional exhaustion was assessed to show the three-factor structure best represents burnout at time three. The one-factor model had poor fit with these data, SBχ^2 (77) = 873.73, $p < .001$, CFI = .85, RMSEA = .17 [90% CI: (.16, .18)], therefore the three-factor model will be used, as seen in Table 24.

Health Time One

First, the six-factor structure established by the RAND Cooperation was tested for health at Time One (Stewart, Ware & Brook, 1982). The initial test of the model indicated poor fit between the proposed model and the observed model, SBχ^2 (155) = 418.20, $p < .001$, CFI = .77, RMSEA = .11 [90% CI: (.10, .12)].

The results of the LM test were then examined to determine how the model fit could be improved. To improve model fit, two error covariances suggested by the LM test were added to items within the social functioning factor. One error covariance was added to the items "How much of the time, during the past month, have you been a very nervous person?" and "How often, during the past month, have you felt so down in the dumps that nothing could cheer you up?", a second error covariance was added between the items "How much of the time, during the past month, have you been a very nervous person?" and "During the past month, how much of the time have you felt downhearted and blue?". After adding the error covariances the model fit statistics demonstrated improvement, SBχ^2 (152) = 297.06, $p < .001$, CFI = .97, RMSEA = .06 [90% CI: (.06,

.10)]. This change was significant for the chi-square, $\Delta SB\chi^2$ (3) = 223.47 , $p < .001$, therefore, the error covariance was added to the final model. The factor loadings were then assessed to determine how well they fit onto each factor. All items had satisfactory loadings as they all loaded more than .70, meaning at least 50% of the item variance was true score variance. The factor loadings for each item can be seen in Table 25.

For comparative purposes, an alternative model was tested to ensure a simpler factor structure did not fit the data as well as the two factor model. A one-factor structure combining all six factors was assessed to show the six-factor structure best represents health at time one. The one-factor model had poor fit with these data, $SB\chi^2$ (152) = 1247.43, $p < .001$, CFI = .53, RMSEA = .16 [90% CI: (.15, .17)], showing that the one-factor structure does not explain the data more simply, as seen in Table 26.

Health Time Two

First, the six-factor structure established by the RAND Cooperation was tested for health at time two (Stewart, Ware & Brook, 1982). The initial test of the model indicated poor fit between the proposed model and the observed model, $SB\chi^2$ (155) = 611.41, $p < .001$, CFI = .82, RMSEA = .08 [90% CI: (.07, .08)].

The results of the LM test were then examined to determine how the model fit could be improved. To improve model fit, two error covariances suggested by the LM test were added to items within the social functioning factor. One error covariance was added to the items "During the past month, how much of the time have you felt calm and peaceful?" and "During the past month, how much of the time have you been a happy person?", a second error covariance was added between the items "How much of the

time, during the past month, have you been a very nervous person?" and "During the past month, how much of the time have you felt downhearted and blue?". After adding the error covariances the model fit statistics showed improvement, $SB\chi^2$ (152) = 410.83, $p <$ .001, CFI = .95, RMSEA = .06 [90% CI: (.06, .07)]. This change was significant for the chi-square, $\Delta SB\chi^2$ (3) = 221.93 , $p <$ .001, therefore, the error covariance was added to the final model. The factor loadings were then assessed to determine how well they fit onto each factor. All items had satisfactory loadings as they all loaded more than .70, meaning at least 50% of the item variance was true score variance. The factor loadings for each item can be seen in Table 27.

For comparative purposes, an alternative model was tested to ensure a simpler factor structure did not fit the data as well as the two factor model. A one-factor structure combining all six factors was assessed to show the six-factor structure best represents health at time two. The one-factor model had poor fit with these data, $SB\chi^2$ (170) = 1449.63, $p <$ .001, CFI = .44, RMSEA = .16 [90% CI: (.13, .16)], showing that the one-factor structure does not explain the data more simply, as seen in Table 28.

Health Time Three

First, the six-factor structure established by the RAND Cooperation was tested for health at time three (Stewart, Ware & Brook, 1982). The initial test of the model indicated poor fit between the proposed model and the observed model, $SB\chi^2$ (155) = 534.41, $p <$ .001, CFI = .86, RMSEA = .08 [90% CI: (.07, .09)].

The results of the LM test were then examined to determine how the model fit could be improved. To improve model fit, two error covariances suggested by the LM

test were added to items within the social functioning factor. One error covariance was added to the items "How much of the time, during the past month, have you been a very nervous person?" and "How often, during the past month, have you felt so down in the dumps that nothing could cheer you up?", a second error covariance was added between the items "How much of the time, during the past month, have you been a very nervous person?" and "During the past month, how much of the time have you felt downhearted and blue?". After adding the error covariances the model fit showed improvement, $SB\chi^2$ (152) = 342.83, $p < .001$, CFI = .95, RMSEA = .06 [90% CI: (.05, .07)]. This change was significant for the chi-square, $\Delta SB\chi^2$ (3) = 233.47, $p < .001$, therefore, the error covariances were added to the final model. The factor loadings were then assessed to determine how well they fit onto each factor. All items had satisfactory loadings as they all loaded more than .70, meaning at least 50% of the item variance was true score variance. The factor loadings for each item can be seen in Table 29.

For comparative purposes, an alternative model was tested to ensure a simpler factor structure did not fit the data as well as the two factor model. A one-factor structure combining all six factors was assessed to show the six-factor structure best represents health at time three. The one-factor model had poor fit with these data, $SB\chi^2$ (170) = 1618.03, $p < .001$, CFI = .43, RMSEA = .14 [90% CI: (.13, .14)], showing that the one-factor structure does not explain the data more simply, as seen in Table 30.

Descriptive Statistics and Bivariate Correlations

Means, standard deviations, bivariate correlations and Cronbach's Alphas for all variables used in the analyses were assessed using the matched sample ($N = 349$) and

presented in Table 31. All resources were reported as being above the midpoint with scores highest for job autonomy at all three time points (M = 5.15, SD = 1.46; M = 5.10, SD = 1.44; M = 5.18, SD = 1.30) and lowest for perceived organizational support (M = 4.91, SD = 1.56; M = 4.66, SD = 1.56; M = 4.60, SD = 1.61) with perceived income adequacy in the middle (M = 4.88, SD = 1.37; M = 4.95, SD = 1.31; M = 5.91, SD = 1.30). This pattern of means suggests slight increase in resource level across all three time points, but these changes appear to be small in nature. Examining the outcome variables, participants reported lower than the midpoint levels of burnout at all three time points (M = 3.27, SD = 1.61; M = 3.18, SD = 1.59; M = 3.21, SD = 1.61) and better than the midpoint health at all three time points (M = 1.75, SD = .56; M = 1.80, SD = .61; M = 1.78, SD = .62). To assess the relationship among study variables, bivariate correlations indicate relationships between all study variables with all correlations significant at a .01 level in the expected directions

Path Analysis

To test the hypothesized structural model as proposed in Figure 1, a model was created in EQS with latent variables representing resources and outcomes. In order to verify the latent variables used in this model, I first examined the measurement model CFA at each time point. For Time 1, the initial test of the model indicated good fit between the proposed model and the observed model, $SB\chi^2$ (3) = 65.53, $p < .001$, CFI = .92, RMSEA = .06 [90% CI: (.13, .20)]. For Time 2, the initial test of the model indicated good fit between the proposed model and the observed model, $SB\chi^2$ (3) = 119.87, $p <$ .001, CFI = .97, RMSEA = .08 [90% CI: (.25, .34)]. For Time 3, the initial test of the

model indicated good fit between the proposed model and the observed model, $SB\chi^2$ (3) = 91.07, $p < .001$, CFI = .98, RMSEA = .06 [90% CI: (.23, .33)]. This shows that for each of the three time points, perceived income adequacy, perceived organizational support and job autonomy represent resources and burnout and health represent outcomes.

To test the model described above, the resource factor variances were fixed to zero while all other paths, covariances and error covariances were allowed to be freely estimated. Using robust estimation as recommended by Yuan and Bentler (1998) due to the large normalized estimate, the hypothesized the model fit the data well, $SB\chi^2$ (67) = 77.73, $p = .17$, CFI = .99, RMSEA = .02 [90% CI: (.001, .04)], providing support for the hypothesized model. Next, the results of the LM test were examined to determine whether paths should be added or removed from the model. Upon examination of this test no additional relationships needed to be added or removed as the addition or removal of paths would have a near zero effect on the chi-square.

Upon initial review of the paths, there was evidence of multicollinearity as the standardized regression coefficients do not stay within ±1 and there are sign changes between the bivariate correlations and the path analysis. In an attempt to simplify the model, resources were modelled as a composite variable rather than as a formative latent construct. When reviewing the model, there was appropriate model fit, $SB\chi^2$ (20) = 143.12, $p < .001$, CFI = .94, RMSEA = .06 [90% CI: (.13, .17)], but still sign flipping and values beyond ±1 for standardized coefficients. As the latent factor model has a stronger theoretical argument and the composite model does not eliminate the multicollinearity the original model was used to examine the paths in this model. After finding appropriate

model fit, each path was examined to either support or reject the hypotheses for the current study. A summary of all significant paths in the tested model can be seen in Figure 2, while a simplified model only showing the significant relationships is shown in Figure 3.

First for the cross sectional hypotheses, Hypothesis 1a-c, the standardized path coefficients were examined. For Hypothesis 1a, the path between time one resources and time two outcomes was significant ($\beta = -.64$, $p < .01$) providing support for this hypothesis. For Hypothesis 1b, the path between time two resources and time two outcomes was not significant (($\beta = 1.03$, $p = .38$) thus not supporting Hypothesis 1b. Last, for Hypothesis 1c, the path between time three resources and time three outcomes was significant ($\beta = -53.42$, $p < .01$) providing support for this hypothesis.

The next set of hypotheses, Hypothesis 2a-b, examine resources across time. First, for Hypothesis 2a, the relationship between resources at time one and resources at time two was examined. This relationship was found to be significant ($\beta = .32$, $p < .01$) providing support for Hypothesis 2a. Next, the relationship between time two resources and time three resources was examined. This relationship was significant ($\beta = -2.01$, $p < .01$) however, this was not in the predicted direction not supporting hypothesis 2b.

The third set of hypotheses, 3a-b, examine outcomes over time. For hypothesis 3a, the relationship between outcomes at time one and outcomes at time two was examined. This relationship was significant ($\beta = -.03$, $p < .01$) however this was not in the predicted direction not supporting Hypothesis 3a. Next, the relationship between outcomes at time

two and outcomes at time three was examined. This relationship was not significant (β = -.64, p = .14), thus not providing support for Hypothesis 3b.

The last set of path hypotheses, Hypothesis 4a-d, deals with the longitudinal relationships between resources and outcomes, both in the causal and reciprocal directions. First, the relationship between time one resources and time two outcomes was examined. This relationship was significant (β = -.01, p < .01), supporting Hypothesis 4a. When looking at the relationship between time two resources and time three outcomes, there was a significant path coefficient (β = -66.99, p < .01), thus supporting Hypothesis 4b. For the reciprocal hypotheses I first examined the relationship between time one outcomes and time two resources. This relationship was significant (β = 1.15, p < .01), however this was not in the predicted direction not supporting Hypothesis 4c. Last, the relationship between time two outcomes and time three resources was examined. This relationship was significant (β = 1.01, p < .01), however this was not in the predicted direction thus not supporting Hypothesis 4d.

The last set of hypotheses left to examine deal with the relative strengths between the resources and outcomes over time. For Hypothesis 2c, the relationship between resources at time one and resources at time two was compared to the relationship between resources at time two and resources at time three. This hypothesis is rejected as relationship between resources at time two and resources at time three is not in the predicted direction. To further investigate Hypothesis 2c, a One Way ANOVA was completed to further determine if resource level decreased across time. This test was not significant, showing no differences between resources across time (F(2, 360) = .22, p =

.80). For Hypothesis 3c, the relationship between outcomes at time two and outcomes at time three was compared to the relationship between outcomes at time two and outcomes at time three. This hypothesis is rejected as the relationship between outcomes at time two and outcomes at time three was not significant.

CHAPTER SEVEN

DISCUSSION

Psychological literature has demonstrated through a number of theoretical models that high levels of stress can negatively impact an individual. In one model, Conservation of Resources theory, resources move in patterns of loss and gain which impacts stress levels and its resulting negative effects on an individual (Hobfoll, 1989). This study sought to examine how loss spirals, one resource movement pattern described by Conservation of Resources theory, impact the presence of poor health and burnout for individuals. By doing so, this study provided an understanding of how both personal and work-related resources, perceived organizational support, perceived income adequacy, and job autonomy, work in tandem within an individual as recommended by Schaufeli, Bakker and Van Rhenen (2009). This study provided an empirical test of resource depletion and loss based on the practices developed by Heath and colleagues (2012). By transferring Heath et al.'s work on loss spirals following political violence to organizational research, this study advances the understanding of resource loss by actually examining resources, rather than looking at the introduction of demands as had been done previously in the literature.

This study utilized structural equation modeling to create a robust model of resource loss to represent loss spirals as described by Salanova (2010). Salanova identified two essential components to empirically model a loss spiral: normal and reverse causation as well a difference in resource levels over time. These two components allow for the demonstration of amplifying feedback loops that demonstrate

depletion of resources and increases in the negative outcomes of resource loss. However, this full model is rarely tested in organizational research, highlighting the importance of this study and its design. Further, this study utilized three waves of data collection to fully understand the causal relationships at hand with resource loss as recommended by Alarcon (2011). By combining the principles recommended by both Salanova (2010) and Alarcon (2011), this study was uniquely able to examine loss spirals in an empirical setting furthering organizational research on Conservation of Resources theory.

Summary of Findings

The first set of hypotheses proposed for this study examined the cross sectional relationships between resources and outcomes at each time point. For these hypotheses, significant negative relationships were found at time one and time three, but the relationship between resources and outcomes was not significant at time two. This result provides support for Hypothesis 1a and 1c but not support for Hypothesis 1b. As the hypotheses at time one and time three are supported, this provides support for Conservation of Resources theory which states that stress occurs under threat of resource loss, when there is actual resource loss or when there in an insufficient gain following resource loss (Hobfoll, 2001). Burnout and poor health have been shown in the literature to result from job stress as modelled by these results (Kramer & Chung, 2015; Shirom, 1989; 2003).

While not hypothesized in this study, the relationship between time three resources and outcomes appears to be more negative than the relationship between time one resources and outcomes. This may potentially indicate a depletion effect where it

becomes harder to recover from additional resource loss after a period of loss which would result in a stronger impact on outcomes at later time periods. These relationships are cross sectional in nature which does however impact the predictive nature of these findings, however similar relationships occurred longitudinally and will be discussed later in this section.

The second set of hypotheses in the study examined the relationships between resources across time where it was predicted that resource loss would get stronger as time continued supporting loss spirals as described by Hobfoll (1989). A significant positive relationship was found between time one and time two resources and a significant negative relationship was found between time two and time three. This supports Hypothesis 2a but not Hypothesis 2b as a positive relationship was predicted. So, support for increased levels of resource loss across time was partially supported because lower levels of resources at time one predicted lower levels of resources at time two. Meaning, that an individual who has low resources at time one is likely to have even lower resource levels at time two. This shows depletion because with a loss spiral you expect to see increasingly low levels of resource as time continues.

As previously mentioned, a negative relationship was found between time two and three indicating that if you had lower resource levels at time two you would have higher resource levels at time three, not supporting the presence of a loss spiral. This indicates that if an individual has low resources at one time point they will have more resources at a later time. Perhaps, when an individual is in state of resource loss they engage in behaviors to try to obtain resources in the future, these behaviors could fall in

line with the resource investment principle of Conservation of Resources theory (Hobfoll et al., 2018). This pattern of findings is unexpected and the inconclusive results about resource level predicting future resource level may be due to a lack of variability in the resources across time in this study and could potentially be corrected in future research using a longer time delay. Additionally, when looking at the relationship between time two and time three the negative relationship seen could have possibly be explained by an outside confounding variable, such as the economic climate. However, when examining the time frame this study was conducted over the economic climate was doing well and remained stable. Further, during the three months of the study, there were no large events that would widely affect an individual's resources.

These findings regarding the relationships between resources across time did not support Hypothesis 2c as the relative strengths could not be compared as the path between time one resources and time two resources and the path between time two resources and time three resources were not in the same direction. Therefore, increasingly low levels of resources were not found in this model, a principle required by Salanova (2010) to show a loss spiral. Meaning, a true loss spiral was not found in this sample despite some indication of resource loss across time. As I could not compare the strength of the relationships seen across time, it is not possible to say that resource loss gained in momentum and magnitude in this study.

For the third set of hypotheses, the relationships between outcomes across time were examined. It was predicted that as the loss spiral continues, or time goes on, there would be higher stress levels and therefore increased burnout and poorer health for

participants, as described by Conservation of Resources theory (Hobfoll, 1989). However, both between time one and time two and between time two and time three there were negative predictive relationships in the data thus not supporting Hypothesis 3a or 3b. Meaning, that if an individual had higher levels of burnout and poor health at one time point, they would have lower levels of burnout and better health at the later time point. This indicates that stress levels are going down over time rather than increasing over time as you would expect to see in a loss spiral. As neither of these initial hypotheses were supported, Hypothesis 3c, examining the relative strength of these relationships was not tested and thus rejected. These findings provide additional support that a loss spiral is not occurring in this study and in fact provides some support for a potential gain spiral as increases in outcomes is seen across the study. As resource gain spirals have an increased salience following periods of loss, even minor gains in resources could trigger the initial effects of a gain spiral as potentially demonstrated with these findings.

The fourth, and final set of hypotheses for this study examined the longitudinal relationships between resources and outcomes, both in the causal and reciprocal directions. First, summarizing the traditional causal relationships, the relationships between resources and outcomes were examined. These hypotheses were based on the same principles as the first set of hypotheses, stating that with Conservation of Resources theory, stress, and its negative effects, occur when there is a threat of resource loss, actual resource loss or when there is insufficient resource gain following resource loss. This study found significant negative relationships between resources and outcomes at both

time points, time one resources to time two outcomes and time two resources to time three outcomes, supporting Hypotheses 4a and 4b. So, as an individual has fewer resources at one time point, they have increased level at burnout and poorer health at the following time point. These longitudinal relationships support the causal inferences that as an individual experiences resource loss they then experience increased negative effects of stress.

Similarly to the first set of hypotheses, although not hypothesized, there appears to be a difference in strengths between these two relationships seen with the resource variables, so between time one and time two resources and between time two and time three. While there is not a loss spiral seen in this study based on Salanova's (2010) principles, these potential differences show there may still be negative impact of longstanding and continual resource loss. This is important as it indicates that low levels of resources have a negative impact on an individuals' stress levels. An individual experiencing burnout and poor health is at risk for more negative outcomes when looking beyond the relationships studied here. With the evidence presented that this relationship appears to be stronger for time two resources predicting time three outcomes demonstrates that individuals who experience resource loss as an increased risk of burnout and negative health.

When examining the reciprocal relationships between outcomes and resources, I predicted that increased negative outcomes would be associated with lower levels of resources. Thus, I expected to see a self-reinforcing feedback loop, an essential component of loss spirals described in the literature (Maruyama, 1963; Salanova, 2010)

However, when examining the results the opposite finding was shown, with a positive relationship between outcomes and resources, not supporting Hypothesis 4c and 4d. This compounds the lack of evidence for a loss spiral when also considering there was not a continual loss of resources as predicted in the second set of hypotheses. While these results are not expected, a negative relationship between outcomes and resources does have a few possible explanations. One possible explanation is that individuals are engaging in behaviors to increase their resources in response to feelings of stress. So, for instance, if an individual is experiencing stress and its effects they then make an effort to change their experiences on the job to feel more job autonomy. A second possible explanation is that individuals experiencing stress cognitively reframe to change their perception of their resource level. However, both of these explanations would need further testing examining the frequency individuals engage in cognitive reframing or behaviors to gain resources to support.

As mentioned in the results, there is evidence of the multicollinearity in this data, which can cause the directionality of relationships to flip between correlations and regressions. This may cause the relationships discussed to be represented improperly in this data. Due to this, I examined the pattern of correlations amongst the composite variables of this study, which can be seen in Figure 4. These correlations support the general pattern of resource loss and its effects on stress hypothesized in this study. As correlations describe the trends of the data and are not predictive these findings do not fully show a loss spiral in this data, but they do address some of the inconsistent findings discussed above.

First, when looking at the relationships amongst resources across time, there is a positive relationship between time one and time two resources and between time two and time three resources. This is in contrast to the path analysis where there is a negative relationship between time two and time three resources. This suggests that across all three time points having lower resources at one time point suggests an individual will have lower resources at the following time point. This points to the depletion effect expected with a loss spiral. Further, when looking at the correlations, there is a positive relationships between time one and time two outcomes and between time two and time three outcomes. This is in contrast to the negative paths seen in the structural equation model. This suggests that if an individual has poor health and high burnout at one time point they will have poor health and high burnout at a later time point. This supports a loss spiral as with a loss spiral an individual should experience increased stress over time with each subsequent resource loss.

The final major difference in the findings when looking at the correlational relationships is with the reciprocal pathways. With the path analysis, there was a positive relationship between outcomes and resources at both time points. However, when looking at the correlations, there is a negative relationship between time one outcomes and time two resources and between time two outcomes and time three resources, which is in line with Hypothesis 4c and 4d. This indicates that if an individual is stressed and therefore experiencing burnout and poor health, they will have lower resources at a later time. This reciprocal pathway is required for a loss spiral to be present based on the principles established by Salanova (2010) as it creates a self-reinforcing feedback loop. This

feedback loop creates the cyclical relationship where the increase of stress triggers further resource loss for an individual. While these findings suggest the presence of a loss spiral, these correlational findings do not provide enough evidence to say there is a loss spiral. Rather, these findings show the negative effects of resource loss and provide a basis for additional future research on loss spirals.

Implications of Findings

While this study did not find significant results for all hypotheses, there are a number of important theoretical and practical implications resulting from the findings. These implications are important to consider as they both provide a theoretical basis on the movement patterns in Conservation of Resources theory and make recommendations for how organizations can utilize this study to understand how to mitigate the negative effects of stress and prevent resource loss for their employees.

Theoretical Implications. The present study sought to address gaps in the understanding of loss spirals in an organizational context and answer calls for the integration of multiple forms of resources when using Conservation of Resources theory. First, while the use of Conservation of Resources theory is widespread in organizational research the movement patterns described by the theory are less studied (Hobfoll et al., 2018). While there have been studies on both loss spirals and resource gain caravans in the literature, resource caravans are more frequently studied as their effects tend to be stronger and easier to detect (Hakanen et al., 2008; Rini et al., 1999). Further, there are methodological challenges that must be overcomes to effectively test loss spirals (Hobfoll, 1989; Zapf, Dormann & Frese, 1996).

Therefore, this study addressed this gap in the literature by utilizing the principles of loss spirals identified by Salanova (2010) and the path model tested by Heath and colleagues (2012). As the proposed model was the best fitting model for the data, this suggests that the path model of loss spirals tested by Heath et al. (2012), which examined resource loss after political violence, can be transferred to differing contexts, and specifically organizational contexts, to see if a loss spiral is occurring. Despite the fact that this study did not find a loss spiral, this provides a basis for future work empirically testing loss spirals in organizations. In addition to the methodology of this study contributing to the literature on loss spirals, the focus on resource loss creates a stronger argument for loss spirals than previous research. Previous work on loss spirals focused on the introduction of demands rather than actual resource loss, so this study was able to focus purely on resources to look at the dynamic movement patterns of resources (Cuyper et al., 2012).

This study deepens the application of Conservation of Resources theory, by showing both cross sectional and longitudinal relationships between resources and outcomes. Specifically, by examining multiple forms of resources and outcomes a broader understanding of the impact of resource loss is obtained. This broader understanding is obtained, because this study examines how more than one resources contributes to how an individual experiences resource loss. Rather than examining a single resource across time, this study uses three in hopes of widely providing a representation of organizationally relevant resources. Both burnout and health have been examined in the context of Conservation of Resources theory, but this study provides

additional evidence of how an individual is impacted by the threat of resource loss, actual resource loss and the inability to recover resources after resource loss. This additional conceptual support for Conservation of Resources theory provides a theoretical basis for future studies examining multiple outcomes of stress. The outcomes of stress are accepted in the literature and studying these accepted outcomes allows for a conceptualization of stress that looks at the impact of stress for an individual rather than looking at the presence of stress. Further, as this study successfully represented stress outcomes using a latent variable, this provides a methodological technique for modeling multiple outcomes of stress.

An additional theoretical implication of this study revolves around the use of resource pooling. In this study, perceived income adequacy, perceived organizational support and job autonomy were treated as observed variables for the latent resource variable. This technique is not widely used in organizational research yet it is widely accepted that resources act dynamically to interact with other resources within an individual (Hobfoll, 1989; 2001). Therefore, as modeled by Heath (2012), multiple forms of resources were combined in this study to represent a more accurate picture of the stress process described in Conservation of Resources theory. The three resources in this study cover personal resources, work resources, socioemotional resources and instrumental resources in an attempt to represent multiple types of resources an individual may have. In addition, the resources in this study cover two of Hobfoll's (1989) resource dimensions. By showing significant results for the resource variable, it provides evidence that pooling resources can be used in organizational research to better understand how to

multiple resources an individual obtains from their workplace can impact organizationally relevant outcomes. Future research should continue to use this methodology when studying resources as there is evidence it is an effective method of examining organizationally relevant resources. Additionally, future research should continue to examine multiple forms of resources rather than examining one resource when using Conservation of Resources theory.

Practical Implications. The results of this study have several practical implications. The negative effects of stress have a significant impact on organizational functioning, which highlights the importance of this study for organizations to consider to reduce the impact of stress for their employees. First, when looking strictly at the relationship between resources and outcomes it is clear that organizational resources directly impacts burnout and health. From this finding, organizations can take action to insure their employees have higher levels of resources to prevent the outcomes of this study. So, for perceived income adequacy, organizations can help their employees meet their needs and wants both via income and other additional non-pay techniques. For perceived organizational support, organizations can create policies and procedures that demonstrates that the organization cares about each employee and provides access to what is needed to carry out each job effectively. Organizations can take effort to allow individuals more control over how they complete their job and the decisions needed to complete daily tasks to increase levels of job autonomy.

While a loss spiral was not seen in this data there are still implications for organizations from this study regarding resource loss. Organizations can understand from

this study that resource loss is a dynamic process and that resources are linked together therefore any changes an individual experiences in regards to their resources may affect other resources. So, for example if an organization changes a policy that reduces job autonomy this may lead to an increased reduction in job autonomy perceptions beyond the impact of the policy change and in addition, the depletion of other resources. These changes could trigger a loss spiral for their employees thus increasing stress, burnout and poor health. Even if a true loss spiral is not triggered, this resource loss can increase stress levels.

Limitations and Future Directions

While the current study has a number of strengths, there are several limitations that highlight areas to consider for future research. First, as mentioned in the results, there is evidence of multicollinearity effects in the data. Multicollinearity occurs when multiple predictors in a model correlate highly and thus inflates the standard error. Specifically, in this study. the resource variables chosen appeared to be highly stable over time and this lack of variability between measurement occasions likely resulted in multicollinearity. This can have a number of effects on the data including causing issues with standardized regression coefficients and cause the directionality of relationships to change between correlations and linear regressions, both issues seen in this dissertation (Mansfield & Helms, 1982). However, multicollinearity can make it harder to detect effects which provides support for the effects that were seen in this analysis. Further, one recommended method to reduce the Type II error rates associated with multicollinearity is a large sample size (Grewal, Cote, & Baumgartner, 2004). A large sample size will not reduce or

mitigate the statistical issues seen with multicollinearity, but by having a large sample size the findings in this study can be trusted more than if they were found in a study with a small sample size.

Next, the measures were assessed using self-report techniques at all three time points, a potential limitation of this study. While self-report is often the best option for psychological research, and was the best option for the current study, it does raise important concerns as well. First, self-report measures often fall victim to issues of faking and social desirability, thus making the measures less accurate (Del Boca & Nol, 2000). Second, common method variance could occur due to all measures being self-report thus causing potential inflation (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). However, common method variance has been argued to be less of an issue than originally believed and participants were told all responses were anonymous thus potentially minimizing social desirability issues (Spector, 2006).

Rather than relying on self-report measures, future research should use alternative non-self-report measures of stress could be used to show a loss spiral. For instance, physiological stress measures could be used, such as cortisol levels. Along these lines, physiological measures of health, such as BMI, could be affected more by resource loss than the self-report health measures used in this study. Making these adjustments for future research would also prevent issues relating to self-report measures from influencing data quality.

A third possible limitation of this study is the time frame the study was conducted over. As described in the method, there were 6-weeks between each time point creating a

three month time period from start to finish for this study. This time delay was chosen as the literature has shown changes in organizationally relevant variables across time periods of at least two months (Tims, Bakker, & Derks, 2013). However, some researchers feel that time periods of at least a year are more appropriate to see differences in stress (Taris & Kompier, 2014). While there is no firm conclusions or best practices for optimal time lags in psychological research it is more widely accepted that time frames of months rather than years are appropriate to see differences on psychological constructs (Dormann & vade Ven, 2014). When looking at the variables chosen for this study, future research should use a longer time delay in hopes of seeing more variability in resource levels across time. This method could possibly reduce some of the issues with multicollinearity in this study.

A final limitation worth discussing for this study are the specific nature and number of resources chosen to represent resources within an individual. In this study, three resources were chosen to represent the larger resource variable, however there are far more than three resources that impact individuals at one time. The resources chosen have some advantages, such as they conceptually match, are theoretically related and represent a variety of relevant resource dimensions. However, more resources should be used to get a more comprehensive picture of all of the resources that impact an individual at one time. Specifically, as Hobfoll (1989) describes four categories of resources, future research can address this limitation by studying resources from each of the four categories. Additionally, a different combination of instrumental and socioemotional resources may allow a loss spiral to be seen. Alternatively, researchers should use

resources that are specifically matched to the outcomes of interest to find a loss spiral. For instance, when looking at burnout and health resources that specifically relate to access to health care or programs to reduce burnout at work may be more apt to show a loss spiral.

Future research should continue to empirically test loss spirals in an organizational setting utilizing the principles of modeling loss spirals established by Salanova (2010) used in this dissertation. While a loss spiral was not found in this study, it does not mean that true loss spirals do not exist in organizational research and efforts should be made to identify when they occur. Continuing efforts to longitudinally test loss spirals with normal and reverse causation will provide valuable insights to both theory and practice. Additionally, one reason it can be challenging to find loss spirals in organizational research is that loss spirals may be more frequent for specific subgroups of individuals. So, future research should look at profile analysis to see if there are changes in resource level over time for one specific subgroup of a larger sample. This focus on subgroups will additionally allow organizations to design interventions to specifically address the needs of each subgroup to prevent loss spirals from occurring.

Further, researchers can expand the model in this study to incorporate a stressful event as is done by Heath (2012) with acts of political violence as a triggering event. This may be effective at showing a loss spiral as Heath (2012) found because Conservation of Resources theory may be more applicable to acute stressors and stressful events than it is for general trends of stress or resource loss. One potential stress organizationally relevant event to consider as a trigger for a loss spiral could be merger or acquisition.

Conclusion

In conclusion, while this study did not find a loss spiral, it did still highlight the stressful effects of resource loss and its relationship with burnout and negative health. This study was able to address the methodological challenges associated with testing loss spirals with its three wave design incorporating normal and reverse causation pathways. Further, it addressed a number of calls for additional research to use multiple forms of resources within Conservation of Resources theory and the impact of stress on burnout and health (Alarcon, 2011). Combining multiple forms of resources into one resource variable is relatively novel approach of understanding resources that allows for a better understanding of how resources interact within an individual. With this study, a number of conclusions can be drawn highlighting the importance of both personal and work-related resources when examining resource loss.

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Table 1. Factor Loadings of PIA Time One Items in Two-factor Structure.

	Loadings
Factor 1: Current Needs	
1. I can afford the basic transportation I need.	.88
2. I can pay my bills on time.	.88
3. I can afford the food I need to survive.	.82
4. I am able to pay my expenses without overdrawing my bank account.	.83
5. I can afford to pay my utilities (heat, water, gas, etc.).	.80
Factor 2: Current Wants	
6. My current income allows me to have the lifestyle I want.	.78
7. I am currently able to meet my financial goals.	.86
8. I can afford to eat at the kind of restaurant I like.	.81
9. I can save for retirement at the rate I want to save.	.85
10. I can afford the type of housing I want.	.87

Table 2. Summary of Confirmatory Factor Analysis Fit Indices for 1-, and 2-factor Models of Current PIA.

	$SB\chi^2$	*df*	CFI	RMSEA	90% CI
Model 1: 1 factor	1025.60**	35	.74	.19	(.18 - .20)
Model 2: 2 factors	157.05**	34	.97	.07	(.06 - .08)

Note. $SB\chi^2$ = Satorra-Bentler Scaled Chi-Square. CFI = Comparative Fit Index. RMSEA = Root Mean-Square Error of Approximation.

Table 3. Factor Loadings of PIA Time Two Items in Two-factor Structure.

	Loadings
Factor 1: Current Needs	
1. I can afford the basic transportation I need.	.89
2. I can pay my bills on time.	.88
3. I can afford the food I need to survive.	.85
4. I am able to pay my expenses without overdrawing my bank account.	.84
5. I can afford to pay my utilities (heat, water, gas, etc.).	.80
Factor 2: Current Wants	
6. My current income allows me to have the lifestyle I want.	.76
7. I am currently able to meet my financial goals.	.88
8. I can afford to eat at the kind of restaurant I like.	.82
9. I can save for retirement at the rate I want to save.	.86
10. I can afford the type of housing I want.	.86

Table 4. Summary of Confirmatory Factor Analysis Fit Indices for 1-, and 2-factor Models of Time Two PIA.

	$SB\chi^2$	*df*	CFI	RMSEA	90% CI
Model 1: 1 factor	562.84**	35	.78	.19	(.17 - .20)
Model 2: 2 factors	80.61**	34	.98	.05	(.04 - .07)

Note. $SB\chi^2$ = Satorra-Bentler Scaled Chi-Square. CFI = Comparative Fit Index. RMSEA = Root Mean-Square Error of Approximation.

Table 5. Factor Loadings of PIA Time Three Items in Two-factor Structure.

	Loadings
Factor 1: Current Needs	
1. I can afford the basic transportation I need.	.91
2. I can pay my bills on time.	.87
3. I can afford the food I need to survive.	.87
4. I am able to pay my expenses without overdrawing my bank account.	.86
5. I can afford to pay my utilities (heat, water, gas, etc.).	.79
Factor 2: Current Wants	
6. My current income allows me to have the lifestyle I want.	.76
7. I am currently able to meet my financial goals.	.91
8. I can afford to eat at the kind of restaurant I like.	.83
9. I can save for retirement at the rate I want to save.	.90
10. I can afford the type of housing I want.	.88

Table 6. Summary of Confirmatory Factor Analysis Fit Indices for 1-, and 2-factor Models of Time Three PIA.

	$SB\chi^2$	*df*	CFI	RMSEA	90% CI
Model 1: 1 factor	539.67**	35	.74	.20	(.19 - .22)
Model 2: 2 factors (added covariance)	90.54**	32	.97	.05	(.05 - .10)

Note. $SB\chi^2$ = Satorra-Bentler Scaled Chi-Square. CFI = Comparative Fit Index. RMSEA = Root Mean-Square Error of Approximation.

Table 7. Factor Loadings of Job Autonomy Time One Items in Three-factor Structure.

	Loadings
Factor 1: Work Schedule Autonomy	
1. My job allows me to make my own decisions about how to schedule my work.	.71
2. My job allows me to decide on the order in which things are done on the job.	.88
3. My job allows me to plan how I do my work.	.91
Factor 2: Decision Making Autonomy	
4. My job gives me a chance to use my personal initiative or judgment in carrying out the work.	.88
5. My job allows me to make a lot of decisions on my own.	.91
6. My job provides me with significant autonomy in making decisions.	.88
Factor 3: Work Methods Autonomy	
7. My job allows me to make decisions about what methods I use to complete my work.	.89
8. My job gives me considerable opportunity for independence and freedom in how I do the work.	.91
9. My job allows me to decide on my own how to go about doing my work.	.91

Table 8. Summary of Confirmatory Factor Analysis Fit Indices for 1-, and 3-factor Models of Time One Job Autonomy.

	$SB\chi^2$	*df*	CFI	RMSEA	90% CI
Model 1: 1 factor	72.40**	27	.90	.02	(.03 - .06)
Model 2: 3 factors	24.25**	24	1.00	.004	(.01 - .03)

Note. $SB\chi^2$ = Satorra-Bentler Scaled Chi-Square. CFI = Comparative Fit Index. RMSEA = Root Mean-Square Error of Approximation.

Table 9. Factor Loadings of Job Autonomy Time Two Items in Three-factor Structure.

	Loadings
Factor 1: Work Schedule Autonomy	
1. My job allows me to make my own decisions about how to schedule my work.	.76
2. My job allows me to decide on the order in which things are done on the job.	.93
3. My job allows me to plan how I do my work.	.93
Factor 2: Decision Making Autonomy	
4. My job gives me a chance to use my personal initiative or judgment in carrying out the work.	.88
5. My job allows me to make a lot of decisions on my own.	.91
6. My job provides me with significant autonomy in making decisions.	.92
Factor 3: Work Methods Autonomy	
7. My job allows me to make decisions about what methods I use to complete my work.	.91
8. My job gives me considerable opportunity for independence and freedom in how I do the work.	.93
9. My job allows me to decide on my own how to go about doing my work.	.92

Table 10. Summary of Confirmatory Factor Analysis Fit Indices for 1-, and 3-factor Models of Time Two Job Autonomy.

	$SB\chi^2$	*df*	CFI	RMSEA	90% CI
Model 1: 1 factor	104.64**	27	.97	.08	(.06 - .10)
Model 2: 3 factors	30.80**	24	.99	.01	(.01 - .05)

Note. $SB\chi^2$ = Satorra-Bentler Scaled Chi-Square. CFI = Comparative Fit Index. RMSEA = Root Mean-Square Error of Approximation.

Table 11. Factor Loadings of Job Autonomy Time Three Items in Three-factor Structure.

	Loadings
Factor 1: Work Schedule Autonomy	
1. My job allows me to make my own decisions about how to schedule my work.	.77
2. My job allows me to decide on the order in which things are done on the job.	.92
3. My job allows me to plan how I do my work.	.92
Factor 2: Decision Making Autonomy	
4. My job gives me a chance to use my personal initiative or judgment in carrying out the work.	.88
5. My job allows me to make a lot of decisions on my own.	.99
6. My job provides me with significant autonomy in making decisions.	.91
Factor 3: Work Methods Autonomy	
7. My job allows me to make decisions about what methods I use to complete my work.	.85
8. My job gives me considerable opportunity for independence and freedom in how I do the work.	.93
9. My job allows me to decide on my own how to go about doing my work.	.92

Table 12. Summary of Confirmatory Factor Analysis Fit Indices for 1-, and 3-factor Models of Time Three Job Autonomy.

	$SB\chi^2$	*df*	CFI	RMSEA	90% CI
Model 1: 1 factor	42.91**	27	.90	.02	(.01 - .06)
Model 2: 3 factors	16.68**	24	1.00	.001	(.01 - .02)

Note. $SB\chi^2$ = Satorra-Bentler Scaled Chi-Square. CFI = Comparative Fit Index. RMSEA = Root Mean-Square Error of Approximation.

Table 13. Factor Loadings of POS Time One Items in Two-factor Structure.

	Loadings
Factor 1: Current Needs	
1. My organization strongly considers my goals and values.	.86
2. My organization really cares about my well-being.	.90
3. My organization cares about my opinion.	.90
4. My organization would ignore any complaint from me.	.70

Table 14. Summary of Confirmatory Factor Analysis Fit Indices for 1-factor Model of Time One POS.

	$SB\chi^2$	*df*	CFI	RMSEA	90% CI
Model 1: 1 factor	7.85**	2	.99	.06	(.02 - .11)

Note. $SB\chi^2$ = Satorra-Bentler Scaled Chi-Square. CFI = Comparative Fit Index. RMSEA = Root Mean-Square Error of Approximation.

Table 15. Factor Loadings of POS Time Two Items in Two-factor Structure.

	Loadings
Factor 1: Current Needs	
1. My organization strongly considers my goals and values.	.91
2. My organization really cares about my well-being.	.94
3. My organization cares about my opinion.	.93
4. My organization would ignore any complaint from me.	.80

Table 16. Summary of Confirmatory Factor Analysis Fit Indices for 1-factor Model of Time Two POS.

	$SB\chi^2$	*df*	CFI	RMSEA	90% CI
Model 1: 1 factor	8.78**	2	.99	.06	(.03 - .15)

Note. $SB\chi^2$ = Satorra-Bentler Scaled Chi-Square. CFI = Comparative Fit Index. RMSEA = Root Mean-Square Error of Approximation.

Table 17. Factor Loadings of POS Time Three Items in Two-factor Structure.

	Loadings
Factor 1: Current Needs	
1. My organization strongly considers my goals and values.	.92
2. My organization really cares about my well-being.	.95
3. My organization cares about my opinion.	.91
4. My organization would ignore any complaint from me.	.81

Table 18. Summary of Confirmatory Factor Analysis Fit Indices for 1-factor Model of Time Three POS.

	$SB\chi^2$	*df*	CFI	RMSEA	90% CI
Model 1: 1 factor	19.56**	2	.98	.06	(.09 - .22)

Note. $SB\chi^2$ = Satorra-Bentler Scaled Chi-Square. CFI = Comparative Fit Index. RMSEA = Root Mean-Square Error of Approximation.

Table 19. Factor Loadings of Burnout Time One Items in Three-factor Structure.

	Loadings
Factor 1: Physical Exhaustion	
1. I felt tired.	.84
2. I had no energy for going to work in the morning.	.85
3. I felt physically drained.	.90
4. I felt fed up.	.84
5. I felt like my "batteries" are "dead."	.92
6. I felt burned out.	.91
Factor 2: Cognitive Weariness	
7. My thinking process was slow.	.91
8. I had difficulty concentrating.	.93
9. I felt like I was not thinking clearly.	.95
10. I felt that I was not focused in my thinking.	.94
11. I had difficulty thinking about complex things.	.89
Factor 3: Emotional Exhaustion	
12. I was not able to be sensitive to the needs of coworkers and customers.	.91
13. I was not capable of investing emotionally in coworkers and customers.	.90
14. I was not capable of being sympathetic to co-workers and customers.	.92

Table 20. Summary of Confirmatory Factor Analysis Fit Indices for 1-, and 3-factor Models of Time One Burnout.

	$SB\chi^2$	*df*	CFI	RMSEA	90% CI
Model 1: 1 factor	1348.91**	77	.91	.14	(.14 - .15)
Model 2: 3 factors	183.95**	74	.99	.04	(.04 - .05)

Note. $SB\chi^2$ = Satorra-Bentler Scaled Chi-Square. CFI = Comparative Fit Index. RMSEA = Root Mean-Square Error of Approximation.

Table 21. Factor Loadings of Burnout Time Two Items in Three-factor Structure.

	Loadings
Factor 1: Physical Exhaustion	
1. I felt tired.	.83
2. I had no energy for going to work in the morning.	.87
3. I felt physically drained.	.90
4. I felt fed up.	.87
5. I felt like my "batteries" are "dead."	.95
6. I felt burned out.	.95
Factor 2: Cognitive Weariness	
7. My thinking process was slow.	.91
8. I had difficulty concentrating.	.95
9. I felt like I was not thinking clearly.	.95
10. I felt that I was not focused in my thinking.	.95
11. I had difficulty thinking about complex things.	.90
Factor 3: Emotional Exhaustion	
12. I was not able to be sensitive to the needs of coworkers and customers.	.91
13. I was not capable of investing emotionally in coworkers and customers.	.93
14. I was not capable of being sympathetic to co-workers and customers.	.91

Table 22. Summary of Confirmatory Factor Analysis Fit Indices for 1-, and 3-factor Models of Time Two Burnout.

	$SB\chi^2$	*df*	CFI	RMSEA	90% CI
Model 1: 1 factor	1125.14**	77	.87	.18	(.17 - .18)
Model 2: 3 factors	142.02**	74	.99	.05	(.03 - .06)

Note. $SB\chi^2$ = Satorra-Bentler Scaled Chi-Square. CFI = Comparative Fit Index. RMSEA = Root Mean-Square Error of Approximation.

Table 23. Factor Loadings of Burnout Time Three Items in Three-factor Structure.

	Loadings
Factor 1: Physical Exhaustion	
1. I felt tired.	.86
2. I had no energy for going to work in the morning.	.88
3. I felt physically drained.	.93
4. I felt fed up.	.88
5. I felt like my "batteries" are "dead."	.95
6. I felt burned out.	.93
Factor 2: Cognitive Weariness	
7. My thinking process was slow.	.92
8. I had difficulty concentrating.	.96
9. I felt like I was not thinking clearly.	.96
10. I felt that I was not focused in my thinking.	.96
11. I had difficulty thinking about complex things.	.92
Factor 3: Emotional Exhaustion	
12. I was not able to be sensitive to the needs of coworkers and customers.	.87
13. I was not capable of investing emotionally in coworkers and customers.	.90
14. I was not capable of being sympathetic to co-workers and customers.	.93

Table 24. Summary of Confirmatory Factor Analysis Fit Indices for 1-, and 3-factor Models of Time Three Burnout.

	$SB\chi^2$	*df*	CFI	RMSEA	90% CI
Model 1: 1 factor	873.73**	77	.85	.17	(.16 - .18)
Model 2: 3 factors	103.63**	74	.99	..03	(.02 - .05)

Note. $SB\chi^2$ = Satorra-Bentler Scaled Chi-Square. CFI = Comparative Fit Index. RMSEA = Root Mean-Square Error of Approximation.

Table 25. Factor Loadings of Health Time One Items in Six-factor Structure.

	Loadings
Factor 1: Physical Functioning	
1. The kinds or amounts of vigorous activities you can do, like lifting heavy objects, running or participating in strenuous sports.	.74
2. The kinds or amounts of moderate activities you can do, like moving a table, carrying groceries or bowling.	.81
3. Walking uphill or climbing a few flights of stairs.	.75
4. Bending, lifting or stooping.	.82
5. Walking one block.	.77
6. Eating, dressing, bathing, or using the toilet.	.71
Factor 2: Role Functioning	
7. Does your health keep you from working at a job, doing work around the house or going to school?	.89
8. Have you been unable to do certain kinds or amounts of work, housework, or schoolwork because of your health?	.95
Factor 3: Social Functioning	
10. How much of the time has your health limited your social activities (like visiting with friends or close relatives)?	.71
11. How much of the time, have you been a very nervous person?	.73
12. How much of the time have you felt calm and peaceful?	.74
13. How much of the time have you felt downhearted and blue?	.82
14. How much of the time have you been a happy person?	.80
15. How often have you felt so down in the dumps that nothing could cheer you up?	.70
Factor 4: Pain	
16. How much bodily pain have you had during the past 4 weeks?	.99
Factor 5: Current Health Perceptions	
17. I am somewhat ill.	.83
18. I am as healthy as anybody I know.	.82
19. My health is excellent.	.85
20. I have been feeling bad lately.	.79
Factor 6: Self Rated Physical Health	
21. In general, would you say your health is excellent?	.99

Table 26. Summary of Confirmatory Factor Analysis Fit Indices for 1-, and 6-factor Models of Time One Health.

	$SB\chi^2$	*df*	CFI	RMSEA	90% CI
Model 1: 1 factor	1247.43**	152	.53	.16	(.15 - .17)
Model 2: 6 factors (with error covariances)	297.06**	152	.97	.06	(.07 - .10)

Note. $SB\chi^2$ = Satorra-Bentler Scaled Chi-Square. CFI = Comparative Fit Index. RMSEA = Root Mean-Square Error of Approximation.

Table 27. Factor Loadings of Health Time Two Items in Six-factor Structure.

	Loadings
Factor 1: Physical Functioning	
1. The kinds or amounts of vigorous activities you can do, like lifting heavy objects, running or participating in strenuous sports.	.72
2. The kinds or amounts of moderate activities you can do, like moving a table, carrying groceries or bowling.	.79
3. Walking uphill or climbing a few flights of stairs.	.83
4. Bending, lifting or stooping.	.84
5. Walking one block.	.75
6. Eating, dressing, bathing, or using the toilet.	.73
Factor 2: Role Functioning	
7. Does your health keep you from working at a job, doing work around the house or going to school?	.83
8. Have you been unable to do certain kinds or amounts of work, housework, or schoolwork because of your health?	.93
Factor 3: Social Functioning	
10. How much of the time has your health limited your social activities (like visiting with friends or close relatives)?	.75
11. How much of the time, have you been a very nervous person?	.79
12. How much of the time have you felt calm and peaceful?	.85
13. How much of the time have you felt downhearted and blue?	.77
14. How much of the time have you been a happy person?	.75
15. How often have you felt so down in the dumps that nothing could cheer you up?	.83
Factor 4: Pain	
16. How much bodily pain have you had during the past 4 weeks?	.99
Factor 5: Current Health Perceptions	
17. I am somewhat ill.	.77
18. I am as healthy as anybody I know.	.81
19. My health is excellent.	.83
20. I have been feeling bad lately.	.79
Factor 6: Self Rated Physical Health	
21. In general, would you say your health is excellent?	.99

Table 28. Summary of Confirmatory Factor Analysis Fit Indices for 1-, and 6-factor Models of Time Two Health.

	$SB\chi^2$	*df*	CFI	RMSEA	90% CI
Model 1: 1 factor	1449.63**	170	.44	.16	(.13 - .14)
Model 2: 6 factors (with error covariances)	410.83**	152	.95	.06	(.06 - .07)

Note. $SB\chi^2$ = Satorra-Bentler Scaled Chi-Square. CFI = Comparative Fit Index. RMSEA = Root Mean-Square Error of Approximation.

Table 29. Factor Loadings of Health Time Three Items in Six-factor Structure.

	Loadings
Factor 1: Physical Functioning	
1. The kinds or amounts of vigorous activities you can do, like lifting heavy objects, running or participating in strenuous sports.	.72
2. The kinds or amounts of moderate activities you can do, like moving a table, carrying groceries or bowling.	.80
3. Walking uphill or climbing a few flights of stairs.	.83
4. Bending, lifting or stooping.	.88
5. Walking one block.	.74
6. Eating, dressing, bathing, or using the toilet.	.73
Factor 2: Role Functioning	
7. Does your health keep you from working at a job, doing work around the house or going to school?	.84
8. Have you been unable to do certain kinds or amounts of work, housework, or schoolwork because of your health?	.93
Factor 3: Social Functioning	
10. How much of the time has your health limited your social activities (like visiting with friends or close relatives)?	.75
11. How much of the time, have you been a very nervous person?	.79
12. How much of the time have you felt calm and peaceful?	.84
13. How much of the time have you felt downhearted and blue?	.77
14. How much of the time have you been a happy person?	.75
15. How often have you felt so down in the dumps that nothing could cheer you up?	.83
Factor 4: Pain	
16. How much bodily pain have you had during the past 4 weeks?	.99
Factor 5: Current Health Perceptions	
17. I am somewhat ill.	.77
18. I am as healthy as anybody I know.	.81
19. My health is excellent.	.90
20. I have been feeling bad lately.	.79
Factor 6: Self Rated Physical Health	
21. In general, would you say your health is excellent?	.99

Table 30. Summary of Confirmatory Factor Analysis Fit Indices for 1-, and 6-factor Models of Time Three Health.

	$SB\chi^2$	*df*	CFI	RMSEA	90% CI
Model 1: 1 factor	1618.03**	170	.43	.14	(.13 - .14)
Model 2: 6 factors (with error covariances)	342.83**	152	.95	.06	(.05 - .07)

Note. $SB\chi^2$ = Satorra-Bentler Scaled Chi-Square. CFI = Comparative Fit Index. RMSEA = Root Mean-Square Error of Approximation.

Table 31. Means, Standard Deviations, Reliabilities and Correlations of Study Variables.

Variable	*Mean*	*SD*	1	2	3	4	5	6	7	8	9	10
1. Time One PIA	4.88	1.37	(.93)									
2. Time Two PIA	4.95	1.31	.85**	(.93)								
3. Time Three PIA	4.91	1.30	.85**	.88**	(.94)							
4. Time One POS	4.69	1.56	.46**	.45**	.44**	(.84)						
5. Time Two POS	4.66	1.56	.40**	.42**	.39**	.82**	(.88)					
6. Time Three POS	4.60	1.61	.39**	.39**	.41**	.84**	.85**	(.89)				
7. Time One Job Autonomy	5.15	1.46	.39**	.39**	.38**	.52**	.40**	.41**	(.96)			
8. Time Two Job Autonomy	5.10	1.44	.33**	.30**	.32**	.48**	.49**	.45**	.77**	(.96)		
9. Time Three Job Autonomy	5.18	1.39	.30**	.33**	.31**	.42**	.42**	.43**	.75**	.82**	(.97)	
10. Time One Burnout	3.27	1.61	-.49**	-.46**	-.46**	-.57**	-.54**	-.51**	-.34**	-.36**	-.32***	(.92)
11. Time Two Burnout	3.18	1.59	-.48**	-.54**	-.53**	-.54**	-.54**	-.50**	-.34**	-.36**	-.33**	.82**
12. Time Three Burnout	3.21	1.61	-.47**	-.51**	-.53**	-.56**	-.56**	-.57**	-.34**	-.37**	-.35**	.83**
13. Time One Health	1.75	.56	-.49**	-.47**	-.48**	-.36**	-.34**	-.29**	-.28**	-.25**	-.20**	.56**
14. Time Two Health	1.80	.61	-.49**	-.51**	-.51**	-.36**	-.36**	-.31**	-.27**	-.25**	-.20**	.58**
15. Time Three Health	1.78	.62	-.44**	-.44**	-.48**	-.34**	-.34**	-.28**	-.23**	-.21**	-.15**	.56**

Internal consistencies (Cronbach's Alpha) shown on diagonal for multi-item variables;. * $p < 0.05$, ** $p < .01$

Table 31, continued. Means, Standard Deviations, Reliabilities and Correlations of Study Variables.

Variable	*Mean*	*SD*	11	12	13	14	15
1. Time One PIA	4.88	1.37					
2. Time Two PIA	4.95	1.31					
3. Time Three PIA	4.91	1.30					
4. Time One POS	4.69	1.56					
5. Time Two POS	4.66	1.56					
6. Time Three POS	4.60	1.61					
7. Time One Job Autonomy	5.15	1.46					
8. Time Two Job Autonomy	5.10	1.44					
9. Time Three Job Autonomy	5.18	1.39					
10. Time One Burnout	3.27	1.61					
11. Time Two Burnout	3.18	1.59	(.92)				
12. Time Three Burnout	3.21	1.61	.87**	(.92)			
13. Time One Health	1.75	.56	.55**	.53**	(.84)		
14. Time Two Health	1.80	.61	.63**	.60**	.87**	(.84)	
15. Time Three Health	1.78	.62	.60**	.59**	.83**	.92**	(.83)

Internal consistencies (Cronbach's Alpha) shown on diagonal for multi-item variables;
. * $p < 0.05$, ** $p < .01$

Figure 1.
Hypothesized relationships between study variables.

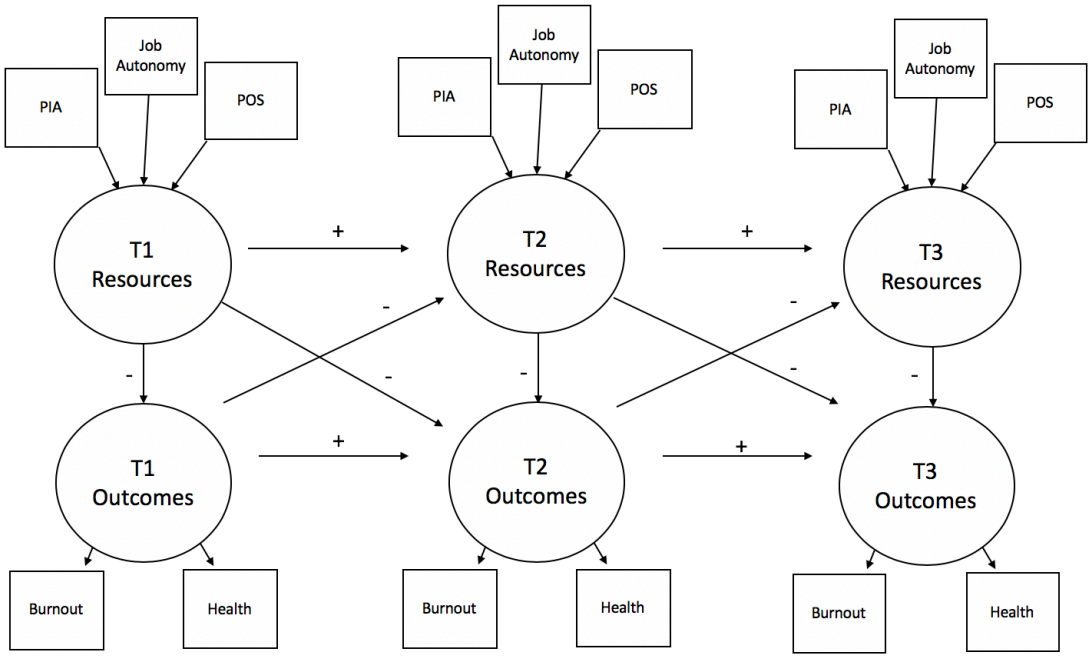

Figure 2.

Relationships between study variables.

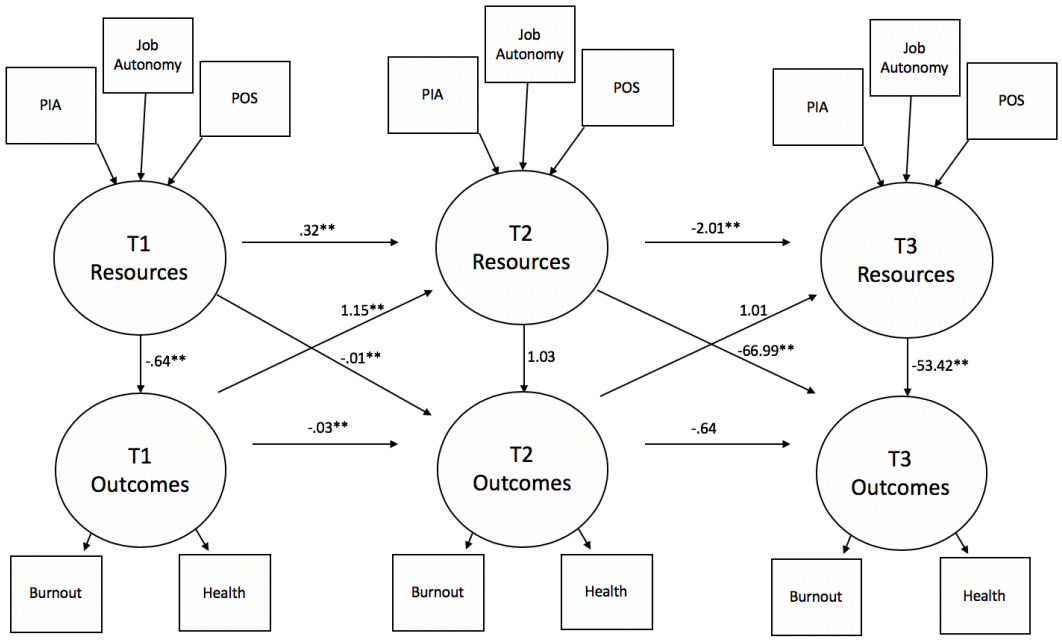

Figure 3.

Simplified model with only supported paths.

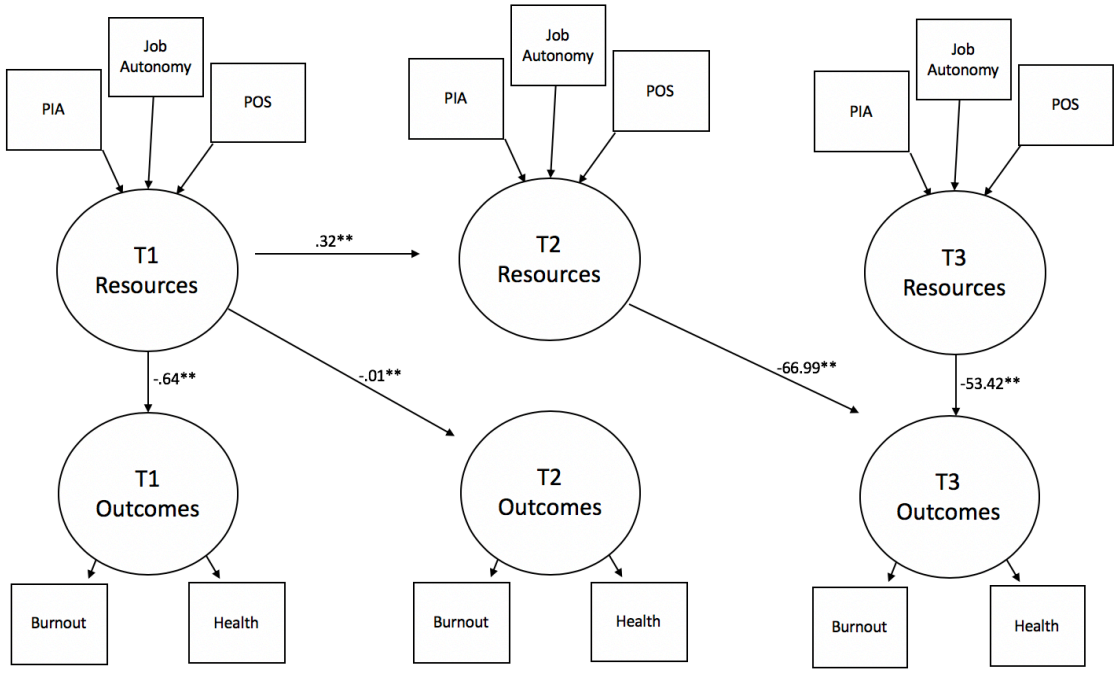

Figure 4.

Path model with composite variable correlations inserted.