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The Work Contextual Features That Matter for Shiftworkers in Crisis Intervention Using a Theoretical Framework for Burnout

Kimberly Davies-Schrils
University of Connecticut - Storrs, kdschrils@mac.com

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Kimberly Ann Davies-Schrils, PhD

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Shiftwork, defined as working during times other than traditional daytime hours, is a working condition that has long been implicated in physiological, psychological and social consequences for workers. The negative effects of shiftwork are primarily attributed to the demand placed on workers to function at varying times of day or night. Most of the research into these outcomes and their underlying mechanisms has been focused on physiological effects of circadian rhythmic disruption, performance decrements in the form of fatigue-induced accidents and injuries, as well as the mental health outcomes associated with balancing family obligations while on opposite sleep schedules. Work contextual features (e.g., workload, control, and fairness) also have implications for workers' experiences and health-related outcomes, yet researchers are still investigating many of the relationships between various aspects of the work context and shiftwork. Burnout is one phenomenon that has been consistently linked to work contextual antecedents, studied relative to shiftwork, and has demonstrated a link to workers' mental and physical health as well as organizational outcomes. However, studies regarding the relationship between burnout and shiftwork have yielded mixed results over the years. This is problematic because burnout is prevalent among workers in the mental health services industry, and many of these operations utilize shiftwork scheduling systems to run on a continuous basis (24/7). The aim of this dissertation was to utilize a multi-study, mixed methods approach to address this research need, and further investigate whether various features of the work context differed systematically by workshift. The specific study population was workers in the telephone-based information and referral, crisis counseling industry. For Study 1, a series of phone interviews were conducted to obtain perceptions of the psychosocial work context for day,

evening and night shift workers. Study 2 consisted of a questionnaire with a quantitative and qualitative section investigating perceptions of work contextual features and burnout. The analysis of quantitative data did not yield support for the hypotheses that workshift was statistically associated with the work context, or that it moderated the relationship between work experiences and burnout. However, the qualitative analysis did provide support for the emerging of different work contexts depending on workshift. The qualitative component of Study 2 therefore provided valuable explanatory insight identifying potential limitations to purely quantitative approaches, and the need to continue investigating these relationships with a mixed methods approach.

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Kimberly Ann Davies-Schrils, M.A.

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The Work Contextual Features That Matter for Shiftworkers in Crisis Intervention Using a Theoretical Framework for Burnout

Presented by

Kimberly Ann Davies-Schrils, B.A., M.A.

Major Advisor _____

Janet Barnes-Farrell, PhD

Associate Advisor _____

Vicki Magley, PhD

Associate Advisor _____

Nick Warren, ScD, MAT

University of Connecticut

2017

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It's not likely conventional to include a visual aid in this section, so instead I ask the reader to consider Maslow's Hierarchy of Needs as the rational for how I've sequenced my acknowledgements.

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Shiftwork, alternative work schedules, and non-traditional work schedules are all terms that have been used to refer to working conditions requiring employees to work at times of day, and/or days of the week, outside of what is considered to be traditional business hours (Monday through Friday, 9am-5pm). Based on current shiftwork prevalence estimates, it is likely that everyone has either directly experienced, or knows someone who has engaged in shiftwork. According to the Current Population Survey (CPS) conducted by the U.S. Census Bureau on behalf of the Bureau of Labor Statistics (BLS, 2004), approximately 17.7% of workers were conducting some form of shiftwork (as cited in McMenamin, 2004). A comparison of statistics from the CPS over the years shows that the prevalence of shiftwork has been fairly stable since 1985 (Beers, 2000; McMenamin, 2004), however another national population survey shows the prevalence to be somewhat higher. In 2010, the National Health Interview Survey (NHIS), conducted by the National Center for Health Statistics (NCHS), included an Occupational Health Supplement (OHS) that covered the subject of work schedules. Data from this survey showed the estimated prevalence for shiftwork among working adults to be 28.7% (Alterman, Luckhaupt, Dahlhamer, Ward & Calvert, 2013). Despite the difference between these two estimates, it is clear from both research endeavors that a significant portion of the U.S. population is engaging in shiftwork. This phenomenon is not limited to the U.S. According to research conducted by public health organizations in several countries around the world, a comparable percentage of workers are conducting shiftwork; 16% (Australian Bureau of Statistics, 2012).

Over the past 30 years, shiftwork has reportedly been most predominant within industries such as healthcare, transportation, hospitality, retail, manufacturing, and protective services (e.g., law enforcement) due to the fact that these industries must operate on a 24-hour basis (Beers, 2000; Alterman et al., 2013). And while other industries, notably retail and manufacturing, may not require 24-hour operation, many businesses elect to function in this manner in order to increase output and revenue. This business decision often benefits workers as it creates more opportunities for employment, sometimes with incentives such as differential pay increases. However, these individuals who benefit from the employment opportunities, will still invariably experience the challenges that working on shiftwork presents. In fact, more than 50% of shift workers report conducting shiftwork because that is the "nature of the job" (McMenamin, 2004), and the job could not be performed during the daytime. Therefore, if a job candidate wants that job, they will need to engage in shiftwork (i.e., work nights) whether they want to or not. Consider the job of stockroom attendant in the retail industry. The activity of re-stocking the store merchandise is most efficient if conducted at a time when customers are not present, and this is likely to be in the evening and night hours. In this case, the job is not designed for a daytime schedule. Conversely, emergency room nurses typically work on a variety of shifts within a shiftwork scheduling system to ensure the availability of emergency room services at any time of day or night. Indeed, it is a grim prospect to consider the unavailability of transportation, hospital or law enforcement services during an emergency simply because it occurred outside of "normal" daytime business hours.

While shiftwork is necessary in a modern industrialized society, decades of research have provided researchers with a wealth of knowledge about physical and mental health outcomes

associated with shiftwork (Costa, 1998). Successful organizational interventions, however, are still sought because the exact mechanisms behind these negative outcomes remain under investigation. An example of one such substantive psychosocial outcome of shiftwork is burnout, which can be described as a sense of exhaustion, accompanied by the loss of interest and resources for conducting one's work. Burnout has been linked with outcomes such as depression, headaches, gastrointestinal issues, absenteeism, and turnover (See Maslach, Schaufeli, & Leiter, 2001, for a review), outcomes which have also been similarly associated with shiftwork (Costa, 1996; Costa & Di Milia, 2010). However, unlike other mental health outcomes, the results have shown mixed support for there being a relationship between burnout and shiftwork.

There are several reasons why burnout and shiftwork conceptually may be interrelated. One such area along these lines that requires more study is the examination of work context. Work contextual features may include job characteristics (e.g., workload, skill discretion), and/or aspects of the organizational culture (e.g., social support, organizational justice). Researchers have already investigated the importance of work contextual features as antecedents to burnout, but do workers on different shifts (e.g., day, evening, night) experience different work contexts? Differences regarding common work experiences, perceptions, and context may vary among workers on different shifts, even within the same organization or physical work space. And, if they do have different experiences, would the result be differing degrees of burnout (suggesting a direct relationship to workshift), or a similar overall degree of burnout, but with differing, contributing work contextual features? Anecdotally, shiftworkers (particularly evening and night shift), are known to describe similar work experiences and consequences, *but this has not been*

systematically examined.

To determine these potentially differential and interactive effects of workplace context and non-traditional shifts on burnout, it may be necessary to explore such relationships in a job type which is inherently organized into shifts *and* inherently susceptible to burnout. One such working population is mental health services, particularly crisis intervention for mental health emergencies, which is an often-overlooked industry that provides critical services to our society on a continuous basis (24 hours, 7 days a week). Research has already identified burnout as a common ailment among mental health service providers and administrators (Awa, Plaumann, & Walter, 2010), and the concept of burnout is especially meaningful for crisis intervention jobs due to the emotionally draining nature of the work (Morse, Salyers, Rollins, Monroe-DeVita, & Pfahler, 2012). Furthermore, it is considered to be a costly menace for non-profits and public health agencies that offer such services due to the consistent turnover of staff, and the need to recruit, hire, and train new staff to replace them (Gilbody, Cahill, Barkham, Richards, Bee, & Glanville, 2006). In brief, conducting research with this group provides an opportunity to study shiftwork and burnout among workers who may be especially at-risk for negative health outcomes. Additionally, given the fundamental societal need for the provision of these services, it is necessary to consider the potential implications of shiftwork scheduling systems and burnout antecedents for these workers as well as organizations in the field of mental health services.
The aim of this dissertation research was to investigate the interrelationship between shiftwork, work contextual features, and burnout in a crisis intervention worker population by addressing the degree to which differing perceptions of work contextual features between shifts affects experienced burnout. To accomplish this aim, a theoretical model of burnout and empirically

supported antecedents was used a framework to investigate these relationships. Then, an initial qualitative study was conducted to identify context specific topics that fit within this framework and would serve as the basis for survey items in a subsequent study. In the second study, a questionnaire with both quantitative and qualitative components was used to test hypotheses regarding these relationships, and to offer explanations for the results.

Shiftwork

The broadest characterization of shiftwork is the scheduling of work hours during a time of day outside what is considered to be a traditional weekday, daytime shift. By this definition, work schedules that include any hours outside of this time of day, and day of the week, qualify as shiftwork (Popkin, Howarth & Tepas, 2006). For example, even workers on day shifts would be considered shiftworkers if they worked over the weekend because the inclusion of either weekend day (i.e., Saturday and Sunday) renders the work schedule non-traditional.

There are many factors that contribute to variations in shiftwork scheduling systems such as the time of day and days of the week the shifts take place, the number of days worked versus the number of days off, the type and direction of shift rotation, and the length of each individual shift (Costa, 2003). In addition to these characteristics, some organizations choose to structure their work systems to include non-fixed schedules so that any one of those features may vary from one day or week to another. In a fixed schedule, those parameters are set and the worker experiences the same pattern of shiftwork over a period of time. Schedules that are not fixed are known as rotating or irregular schedules. The distinction between these depends on whether there is a pattern to the changing or rotating shift worked, or if there is no consistent pattern. The

latter is known as irregular and tends to be a function of organizational needs that vary by some external factor (e.g., market demand, other staff availability).

The most basic type of shiftwork scheduling system is one that is structured with three, 8-hour shifts scheduled back-to-back to support continuous operations. An example of this system could include a daytime shift from 7am-3pm, an afternoon shift from 3pm-11pm, and an night shift from 11pm-7am. These shifts are often referred to as first, second and third shift respectively (Popkin et al., 2006). One simple variation of this includes the condensed workweek schedule. For full-time employees, the condensed workweek schedule entails the extension of work hours from 8 per shift to 10 per shift, resulting 4-day workweek as opposed to a 5-day workweek.

Clearly, a thorough characterization of an individual's shiftwork experience requires the articulation of a multitude of factors. For this reason, there has been a call for shiftwork researchers to use more consistent terminology (Popkin et al., 2006) and to include sufficient details regarding the researchers' operationalization of shiftwork to aide in the translation of research findings across studies and research disciplines (Knutsson, 2004). Although the complexity of shiftwork systems is an important consideration in the research and subsequent publication of findings, shiftwork researchers have contributed to a proliferation of empirical work regarding the consequences of shiftwork and their underlying mechanisms.

For the purpose of this dissertation, the participating organizations utilize fixed (non-rotating) schedules of 8-hours per shift as part of a 3-shift system. Weekend and evening workers were part-time, whereas the day, evening and night shift workers were full-time. Although ultimately it will be important to consider different scheduling systems with respect to

the relationships that were examined in this dissertation research, it was necessary in this study to include organizations with simpler shift systems to limit the number of alternative explanations for the results.

The Consequences of Shiftwork

For the past several decades, researchers across many disciplines have sought to investigate the possible repercussions for shiftworkers who are paid to function at a time other than traditional daytime hours (Popkin et al., 2006). Based on this research, a sizable body of literature has developed establishing that work schedules involving evening, night, and rotating schedules place a burden on workers to make physiological, social, and psychological adjustments that typically result in consequences to their health and well-being (Costa, 1996; Costa & Di Milia, 2010). As detailed in the next section, these outcomes can be broadly categorized as physical, mental, and organizational.

Physical outcomes that are associated with long-term shift experience (Costa, 1996; Costa & Di Milia, 2010; Nachreiner, Lübeck-Plöger, & Grzech-Sukalo,1995) include gastrointestinal disruption, headaches, fatigue, cardiovascular disease, and there is some support for the link between shiftwork and cancer (Davis, Mirick, & Stevens, 2001; Hansen, 2001). At this time, there is not sufficient evidence to support an overall relationship between shiftwork and mortality, however there is some evidence to suggest shiftwork may be associated with increased risk of mortality for women in white-collar industries (Åkerstedt, Kecklund, & Johansson, 2004). Researchers have theorized that the underlying mechanisms for these physical outcomes are due to a combination of biomedical and behavioral factors. From a biomedical standpoint, non-day schedules require workers to be awake at times their natural circadian

rhythms would otherwise support a sleep session. Likewise, these workers then attempt to sleep during a time when their bodies are naturally programmed to stay awake. The result is a disruption of necessary hormonal processes. The most researched of these disruptions is a suppression of melatonin, and an increase in cortisol, which researchers have linked to negative consequences. Researchers are still investigating other potential physiological mechanisms that underlie the relationship between shiftwork and negative physical outcomes.

In addition to the physiological mechanisms that connect shiftwork to negative physical outcomes, shiftwork researchers investigate behavioral mechanisms such as obtaining insufficient sleep, engaging in altered or unhealthy eating behaviors, and the consumption of caffeine. Workers also experience negative physical outcomes in the form of safety incidents. Studies have shown that there is a higher risk of occupational injury while working evening and night shifts (de Castro, Fujishiro, Rue, Tagalog, Samaco-Paquiz, & Gee, 2010).

Accidents and incidents at work are not the only safety concern among the shiftworking population. Shiftwork has been associated with fatal occupational accidents (Åkerstedt, Fredlund, Gillberg, & Jansson, 2002). Researchers have also identified shifworkers as being at an increased risk for car accidents during their drive to and from work (Di Milia & Bowden, 2007), which may be attributed to slowed reaction time and the onset of micro-sleeps (brief episodes of sleep that last merely seconds) brought on by sleepiness and extreme fatigue. Micro-sleeps are especially dangerous for workers who operate machinery, because even a momentary loss of attention could have disastrous results.

Mental health outcomes that are linked with shiftwork include depression (Geiger-Brown, Muntaner, Lipscomb & Trinkoff, 2004; Grosswald, 2003), decreased overall satisfaction

with life and community (Kaliterna, Prizmic, & Zganec, 2004), overall decline in worker well-being (Barnes-Farrell, Davies-Schrils, McGonagle, Walsh, Di Milia, Fischer, Hobbs, Kaliterna & Tepas, 2008; Tepas, Barnes-Farrell, Bobko, Fischer & Iskra-Golec, Kaliterna, 2004) anxiety, higher perceptions of work-family conflict, negative work-to-family spillover (Grosswald, 2003), and burnout (Jamal, 2004). However, the research into these has produced mixed results. In a study of Canadian nurses by Jamal and Baba (1997), burnout was not associated with a variety of shift types (fixed day, fixed night, fixed evening and rotating). However, in another study by Jamal in 2004, burnout was associated with working "non-standard schedules" which Jamal defined as any shift other than a traditional day shift. With respect to work and family outcomes, Grosswald (2003) found that night and rotating shifts were associated with negative work-to-family spillover, while evening and flexible schedules were not. This may possibly be due to the way flexible and evening schedules accommodate situations where parents use these schedule arrangements to care for their children.

Although the negative outcomes for employee health in and of themselves constitute reason enough to research shiftwork, there are a myriad of organizational outcomes supported by research that may compel employers to consider how carefully they construct their scheduling systems. Some of the organizational outcomes that are linked with shiftwork include higher absenteeism and turnover, lower productivity and lower job satisfaction (Bohle & Tilly, 1998; Jamal & Baba, 1992, 1997; Krausz, Sagie & Bidermann, 2000).

Taken altogether, it is important for researchers to continue investigating the consequences of shiftwork, and specifically to improve our understanding of mental health outcomes given a proliferation of research into the physical consequences of shiftwork. There is

also a clear need for further empirical evidence regarding the relationship between shiftwork and burnout. Therefore, this topic was a viable opportunity for conducting research as it would help to fill a knowledge gap. An additional benefit to studying this topic was that theoretical models of antecedents to burnout include factors that are embedded in the workplace, hence pursuing this research may aid in the identification of potential points of intervention, and perhaps ultimately, preventive measures.

Mitigating the Effects of Shiftwork

Researchers have attempted to identify the ideal shift system that would minimize the negative effects of circadian disruption, but those attempts were deemed overly simplistic, as there is no "one size fits all" solution (Barton, Spelten, Totterdell, & Smith, 1995). Instead, shiftwork researchers turned their attention to specific shift system characteristics and whether they were associated with more favorable outcomes for shiftworkers. For example, a higher number of consecutive night shifts was linked to positive outcomes for full-time, permanent night shift workers whereas no significant relationship was found for part-time workers (Barton et al., 1995). The researchers theorized that when full-time, permanent night workers maintained an evening-wake, and daytime-sleep routine for a period of time, a circadian rhythm adjustment (i.e., phase shift) gradually took place, such that the workers successfully reversed their body's biorhythms. For these workers, a number of consecutive night shifts was linked to longer sleep duration and better sleep quality, because it was contributing to a consistent sleep pattern. This was not the case for part-time night shift workers, likely because they were not completely maintaining a nocturnal schedule that would have accomplished a phase shift for their circadian rhythm. However, even for full-time night shift workers, longer shift duration (beyond 8 hours)

has been linked with negative outcomes such as chronic fatigue, cognitive anxiety and emotional exhaustion (Iskera-Golec, Folkard, Marek, & Noworol,1996). Taken together, the results of these findings suggest that patterned and consistent night work schedules that are of average length (8 hours), may be a design that poses the least risk for workers who cover the night shifts. The concern behind declaring this as the ultimate recommendation, is whether night workers would actually maintain a nocturnal schedule or flip back to a daytime schedule on their days off to maintain connections with the rest of society, family and friends, etc.

In addition to identifying problematic features of shift systems, researchers have explored individual differences among workers that could moderate the relationship between shiftwork and negative outcomes. This has led to the identification of factors that may either buffer against or exacerbate these negative outcomes, depending on worker adaptability or resistance, respectively. Further, some research suggests these potential moderators may act in conjunction with one another, rather than independently (Iskra-Golec, Marek, & Noworol,1995). Indeed, there have been many other individual characteristics that have been the subject of past and ongoing studies. See Harma (1993) for a complete review.

Some shiftwork researchers have taken a broad, systems perspective to investigate the consequences of various shift system characteristics and their underlying mechanisms. Research associated with the development of the Shiftwork Index (Barton et al., 1995; Smith et al., 2001) provided empirical support for a comprehensive theoretical model aimed at the identification and measurement of these factors. In this theoretical model, shift system features are exogenous variables leading to disturbed biological rhythms, disturbed sleep, and family/social disturbances. The authors proposed that this relationship is mediated by individual/situational

differences, and ultimately leads to chronic mental health, physical health, and safety outcomes. Although this broad theoretical perspective offered a valuable contribution to the literature, job-related factors were largely underrepresented in the model as a facet of situational factors. Thus, Smith et al., (1999) conducted research to provide additional empirical support for the process model of shiftwork and included subjective workload as a situational factor. The results supported subjective workload as an important contextual variable. As such, some shiftwork researchers have focused their investigations on the relevance of organizational context for outcomes like work life conflict, physical health, and psychological health (Pisarski, Lawrence, Bohle, & Brook, 2008). In this research, organizational context has been operationalized as work control, work stress (Åkerstedt et al., 2004), supervisor support (Pisarski et al., 2008), team climate, team identity (Pisarski et al., 2008), job demands, discretion, social support, and physical stressors (Parkes, 1999). The definition or categorization of shiftwork varies in each of these studies, as it is typically determined by the shift characteristics of the sample used in the study.

Overall, the results have demonstrated support for the role of work/organizational context in contributing to physical and psychological health outcomes for shiftworkers. These findings, therefore, have the potential to lead researchers toward the identification of interventions. However, the literature is weak in a few specific aspects which blur the picture of exactly what the relevant work contextual problems are for shiftworkers and why they exist. The first issue is the variability of shiftwork definitions across studies, as described earlier. One potential solution for this problem is to conduct a series of studies, each targeting a specific type of shiftwork system, and then examining work contextual features that may emerge consistently within

specific workshifts. A more systematic approach is necessary to isolate work contextual features that vary by shift. This study included a sample of organizations operating on a shift system with fixed day, evening, and night shifts, which provided the means to compare perceptions between workers who are consistently experiencing those shifts. However, a small proportion of the workers reported working irregular schedules, therefore this is noted and examined in the analyses.

Although work contextual features, and psychosocial variables such as job demands. Work control, and social support have been extensively examined in previous shiftwork research (Knutsson & Nilsson, 1997; Tüchsen & Jeppesen, 2001), the primary focus has been on the relationship between shiftwork and strain outcomes (Åkerstedt et al., 2004). In these cases, shiftwork was either operationalized differently, modeled alongside of the work contextual features as an additional exposure, or the psychosocial aspects were used as control variables. In contrast, there has been limited research that models work contextual features as a mediator of the relationship between shiftwork and strain outcomes, despite suggestions from researchers to do so (Jansen, Kant, van Amelsvoort, Nijhuis, & van den Brandt, 2003). For example, Driesen, Jansen, Kant, Mohren, and van Amelsvoort (2010) conducted an investigation into the influence of shiftwork on depression and found that once the psychosocial work context (e.g., decision latitude, social support) was entered into the regression equation, the statistically significant association between shiftwork and depression was lost. It is important to note that *decision latitude* is conceptually analogous to *job control* according to the job demands-control-support model (DCS; Karasek & Theorell, 1990). In another study by Jansen et al., (2003), the authors reported similar findings with respect to job demands and suggested that researchers "investigate

the possibility that shift work might function as a proxy of other work-related factors" (p. 664) in future studies.

It is noteworthy that such research efforts were often framed by well-founded, and empirically supported stress theories. Such theories included the models of job demand control (Karasek & Theorell, 1990), job demand resources (Demerouti, Bakker, Nachreiner & Schaufeli, 2001), and effort reward imbalance (Siegrist, 1996). However, these theories were typically utilized in isolation across shiftwork studies, rather than in conjunction within the same study, despite the fact that each only addresses a part of what could be construed as an entire work context. For example, Knutsson and Nilsson (1997) explored the link between shiftwork and job strain using the job demand/control model (Karasek & Theorell, 1990) as the supporting theoretical framework. The researchers included occupation and gender in their analyses as control variables. Although the initial findings supported a higher level of job strain among day workers, the results revealed that once occupation and gender were included in the model, shiftwork was no longer significantly related to job strain. This study did not support generalizability across occupations, however this sample was limited to 4 occupations. In a study that included participants from a variety of occupations, Bøggild, Burr, Tüchsen and Jeppesen (2001) found that shiftworkers (evening and night shift workers) reported more conflicts at work, lower decision authority (one of two aspects of *job control* in the DCS referring to the worker's approval to make decisions under their own authority; Karasek & Theorell, 1990), and lower social support than daytime workers. Similarly, in a study conducted by Tenkanen, Sjöblom, Kalimo, Alikoski, and Härmä, M. (1997) investigating the link between shiftwork and coronary heart disease (CHD), shiftwork was associated with l*ower decision*

latitude (i.e., *job control*) and lower job demands as well as CHD. Parkes (1999) also found lower *decision latitude* (DCS model; Karasek & Theorell, 1990) among shiftworkers (day/night rotating workers) while studying offshore oil production crews, as well as more adverse perceptions of the physical environment. Results of this study also supported a mediating influence of these work contextual features on the relation between shiftwork and negative health outcomes such as gastric issues and sleep problems. More recently, *managerial control* (i.e., management oversight regarding following policies and procedures) was found to be higher for night workers (von Treuer, Fuller-Tyszkiewicz & Little, 2014) whereas *schedule control* was found to be lower for night and evening workers (Davies-Schrils, 2011).

A comprehensive review of these studies demonstrates that although each provides information about a piece, or pieces, of the work context, few if any examine several simultaneously. This may be due, in part, to the lack of a comprehensive theoretical framework for identifying elements of the work and organizational context that could be a contributor to mental and physical health outcomes. Burnout is one such mental health outcome that has been empirically linked to a multitude of work contextual antecedents and has also been examined as an outcome of shiftwork. At this time, the Areas of Worklife (Leiter & Maslach, 2004) is a model for burnout that has not yet been studied in conjunction with shiftwork. Primarily, shiftwork researchers use the Job Demands-Resource (JD-R; Demerouti et al., 2001) model of burnout. However, the Areas of Worklife theoretical model of burnout (Leiter & Maslach, 2004) accomplishes the goal of including multiple work contextual features in a framework that is directly associated with important health outcomes stemming from burnout. This theoretical model was developed based on extensive research/application in the field (Leiter & Maslach,

2000; Leiter & Maslach, 2004; Leiter & Maslach, 2011; Maslach et al., 2001) and identifies the important work contextual features as being reflected in six domains: *workload*, *control*, *community*, *reward, fairness*, and *values*.

Burnout

The concept of burnout was initially a "pop psychology" phenomenon in the 1970's, based largely on people's work experiences (Maslach et al., 2001) in which people described a gradual loss of energy, enthusiasm and interest in their jobs toward feelings of cynicism and detachment. A series of exploratory research endeavors (Freudenberger, 1975; Maslach, 1976) among workers in the human service industry brought the discussion of burnout to an academic forum in the early phase of empirical development. At that time, burnout was examined from both a clinical perspective with symptoms that had implications for workers' mental health (Freudenberger, 1975), and from a social psychological perspective as it was conceptualized to involve an interpersonal interaction between worker and client that led to a depletion of resources (Maslach, 1976). In the years that followed, a more systematic empirical investigation was launched by researchers, which contributed to the development of burnout as a psychological construct and also led to the validation of instruments for measuring burnout among human service workers (Maslach, 1981).

Although burnout has a history of being defined in slightly different ways, researchers generally agree that burnout is a multidimensional concept and that the three core dimensions are broadly defined as exhaustion, cynicism, and reduced professional efficacy (Maslach et al., 2001). Specifically, burnout can be described as a gradual loss of energy, enthusiasm, and interest in one's job, followed by cynicism and detachment. Since the beginning of the

development of burnout as a construct, researchers have examined this phenomenon in the mental health services industry. This may partly be due to fact that the initial research was conducted using samples of mental health workers (Freudenberger, 1975; Maslach, 1976), as that population was easily accessible to the initial researchers. However, this research led to ample support for the finding that the mental health and social service industry can be emotionally draining for workers. One of the drivers of this outcome is that workers in mental health services encounter individuals in a highly emotional state as a routine part of their jobs. Thus, organizations that provide social and/or mental health services often experience high turnover among their workforce (Gilbody et al., 2006).

Burnout has been linked with important personal and organizational outcomes such as low job satisfaction, absenteeism, low job performance, and turnover (Maslach, Leiter & Jackson, 2012). Several theoretical models have been developed and are empirically supportive of burnout as a consequence of various work conditions and experiences. These include the models of person-organization or person-environment fit (Kristof, 1996; Edwards & Cooper, 1990), effort-reward imbalance (Siegrist, 1996) job demands-control-support (DCS; Karasek & Theorell, 1990), and more recently the job demand-resources paradigm (JD-R; Demerouti et al., 2001) which was inspired by the DCS. Each and every one of these theoretical models has been supported as linked to burnout via extensive research, and because they are all unique, there is value in using them in future research endeavors. However, the goal for this dissertation was to use a model that is the most inclusive of the work contextual features identified in the literature as antecedents to burnout. Additionally, it has been suggested that considering the general consistency of findings related to the components and consequences of burnout, the next phase

of conceptual and theoretical development for researchers is to expand existing theoretical frameworks, and study the development of burnout over time. (See Maslach et al. 2001 for a comprehensive review.)

The Areas of Worklife theoretical model (Leiter & Maslach, 2004; Maslach et al., 2001) of burnout antecedents encompasses many of the work contextual features listed above: *workload*, *control*, *community*, *reward, fairness* and *values*, and constitutes an expansion of prior models of antecedents to burnout. The researchers who developed this theoretical model, Leiter and Maslach (2004), define burnout as a mismatch between worker preferences and their actual work experiences. The Areas of Worklife Scale (AWS) was designed specifically to support this theoretical model and measures the extent to which workers perceive "congruence" between their preferences and their work experiences. For example, if a worker reports perceptions that their values are not consistent with the values of their organizations, they will achieve a low score on the domain of values, indicating a mismatch that contributes to burnout. The development and validation of the AWS has been ongoing for approximately two decades, and studied in a variety of working populations and published findings have included nurses, administrative service workers, and customer service workers (Leiter & Maslach, 2000; Leiter & Maslach, 2004; Leiter & Maslach, 2011; Maslach & Leiter, 2008; Maslach et al., 2001.)

It is important to note that although the researchers' theoretical model of burnout antecedents (Maslach et al., 2001) is described as a mismatch or lack of congruence, the scales themselves are not constructed the way that person-environment fit researchers typically measure congruence. In such measures, items are predominantly constructed to measure both the environment (E), and the person (P) so the degree of incongruence can be statistically

determined via one of various methods (e.g., difference scores, polynomial regression), depending on the researcher's chosen theoretical approach. (See Edwards & Cooper, 1990 for a review of early theoretical models.) In accordance with theories for perceived fit, there are a few ways to measure congruence: the atomic, molecular, and molar approaches (Edwards, Cable, Williamson, Lambert, & Shipp, 2006). Respectively, items can be constructed to measure: 1) both the perceived and desired amounts of work environmental characteristics in separate items, 2) the direct discrepancy between the perceived and desired amounts of those characteristics, 3) and the degree to which the perceived amount of those characteristics fit the person's desired amount (Edwards et al., 20016).

However, research exists in which congruence is measured by assessing workers' level of agreement with simple statements that characterize their perceptions of work contextual features. For example, in a study by Mitchell, Holtom, Lee, Sablynski and Erez, (2001), the authors used the following item, "My values are compatible with the organization's values" to assess congruence through an agreement response scale (p. 1121). Similarly, in another study by Netemeyer, Burton, & Johnston, (1995), the researchers used the following item, "I have more obligations than I can handle during the time that is available" (p. 81). In this example, the question does not ask directly if the workload is the amount that fits the individual;s preferences. Rather, the item is constructed to assess perceptions of workload magnitude. Although this is not an explicit measure of congruence, a response of agreement to this item means the worker perceives this workload as too high which can be interpreted as poor fit, or a lack of congruence with preferred workload.

The Areas of Worklife Scale (Leiter & Maslach, 2000; Leiter & Maslach, 2004; Leiter & Maslach, 2011; Maslach et al., 2001) was constructed with items across all domains that match the examples just described. Respondents indicate their level of agreement with statements that describe perceptions regarding each of the six domains. Most items, with a few exceptions, describe a positive work experience whereby workers perceive a workload that they can handle, a sense of community, control over their work and environment, rewards for their work, fairness in the workplace and organizational values that match their own. Negatively worded items are reverse-scored to maintain the positive nature of the construct, indicating a match between the worker and the environment. Therefore, higher scores on the AWS indicate a higher level of perceived congruence which should be associated with lower perceptions of burnout, according to the model. As described, burnout has three components: exhaustion, cynicism, and professional efficacy. Both exhaustion and cynicism are negative perceptions, so higher scores are bad for the worker. However professional efficacy is a positive perception, so higher scores on this component indicate a better work experience. To fit with the theoretical model, higher AWS scores across all domains (indicating a match between workers and their environment), should correspond to a higher score on professional efficacy, and lower scores on exhaustion and cynicism.

Thus, Hypothesis 1 describes the overall relationship that is expected between the AWS domains and burnout, whereas sub-hypotheses H1a-H1f (outlined in the next section) correspond to the individual Areas of Worklife as they relate to burnout. (See Figure 1 for the hypothetical model.)

Hypothesis 1: Perceptions of work contextual features will be associated with burnout in the expected directions such that lower (congruence) scores on the AWS will be associated with higher scores on *exhaustion and cynicism,* and lower scores on *professional efficacy*.

The Link Between Burnout and Shiftwork

Although research strongly supports hypothesizing a statistical relationship between the Areas of Worklife and burnout (H1), the research findings regarding statistical associations between burnout and shiftwork are not as supportive. In fact, studies have produced mixed results. The problem is further compounded by the fact that there is a limited number of studies where that specific relationship is examined and reported. For example, in two different studies conducted by Jamal and Baba, the analyses yielded different results. Burnout did not appear to be linked to shiftwork in the initial study (1997), but later was found to be associated with shiftwork (2004). It is noteworthy that shiftwork was defined differently in each study, but it is not clear whether an equivalent categorization of workshift between samples would have resulted in similar findings. In a more recent finding by Davies-Schrils (2011), workshift was statistically significantly related to burnout such that workers on evening shift reported higher levels of burnout than those on day schedules. In this study, the researchers tested hypotheses regarding the AWS theoretical model, burnout, and shiftwork. (See Figure 2 for the hypothesized model.) However, the study did not include the AWS itself. Rather, the researchers used other available measures that approximated the psychological constructs in the AWS. (See Table 1 for a list of the measures used.) This study can be counted among those where researchers detected a statistically significant (albeit small) association between burnout and workshift. However, they

subsequently found support for an indirect association by way of differences between day and evening/night shifts with respect to physical work demands, decision authority and schedule control (the two constructs in the study that measured a component or type of control), which contributed to burnout. This type of finding, among a few in other studies, lends to the speculation that intervening variables may be the true actor in the relationship (Knutsson & Nilsson, 1997). Therefore, it is likely that a test of statistically significant associations between workshift and burnout would not lead to supportive findings.

However, the lack of a direct statistical association between shiftwork and burnout does not mean that workshift is an irrelevant factor. As discussed earlier, one possible explanation for the mixed findings regarding a direct relationship between workshift and burnout is that work contextual features or domains reflect the key issues that vary across workshifts leading to the difference in burnout between shiftworkers and non-shiftworkers. In this case, workshift would serve to create the key conditions that led to the development of burnout over time. Physical job demands, control over schedule, skill discretion, decision authority and social support have all been associated with shiftwork and burnout (Parkes, 1999; Davies-Schrils, 2011), and are represented in the Areas of Worklife theoretical model. Thus, the AWS is a natural fit for inclusion in a study that aims to examine whether, and how, aspects of the work context may vary systematically by shift. The assertion that work context is the true operator when associations are found between workshift and burnout leads to the next set of hypotheses. Given the structure of the AWS, these hypotheses are listed here at an overall level, and are broken down into six sub-hypotheses that correspond to each of the six work contextual domains described in their respective sections below. (See Figure 2 for hypothetical model.)

Hypothesis 2: Perceptions of work contextual features will vary by workshift. (2a-2f listed below).

Hypothesis 3: Workshift will moderate the relationship between work contextual features and burnout. (3a-3f listed below).

Workload. Leiter and Maslach (2011) describe *workload* as "the most obvious, and most commonly discussed, source of burnout" (pg. 3). Indeed, psychological and physical workload are commonly studied in the realm of occupational health psychology and have been associated with a myriad of negative outcomes. The authors described the *workload* area of worklife as an attempt to measure whether one has a "manageable" workload, or a "crisis in workload" that requires one to go "beyond human limits." A review of the items reveals a focus on having enough time to get the work done and needing to work intensely, which is consistent with other existing measures of psychological work demands (JCQ; Karasek & Theorell, 1990). This is not surprising because the theoretical basis for inclusion of *workload* in the areas of worklife (Leiter & Maslach, 2011) is Karasek and Theorell's (1990) job-demand control model. Indeed, high workload has been established as a consistent predictor of burnout and other negative work and personal outcomes. In the case of the AWS, higher scores for *workload* indicate more congruence between the workers' preferences and their actual workload. Therefore, the following is hypothesized:

Hypothesis 1a: Workers' perceptions of *workload* on the AWS will be negatively associated with exhaustion and cynicism, but positively associated with professional efficacy.

However, the question remains as to whether consistent patterns of workload experiences manifest within specific workshifts. One might assume that workload would be highly variable across jobs, organizations, and industries such that a consistent pattern of workload would not transcend those factors to produce similar experiences for a given workshift. However, a review of the literature reveals that shiftwork researchers are not explicitly making those comparisons. This provides little to go on when considering how to generate empirically supported hypotheses about the directionality and magnitude of work context perceptions relative to workshift. Furthermore, any hypotheses that could be generated based on anecdotal information from shiftworkers would lead to differing conclusions. For example, in service organizations it could be hypothesized that a lower workload is inherent to the design of night work. Organizations need to be staffed at night to ensure someone is there to provide services, but the need for those services is so low that the workload is less intense even for a minimal number of staff. Also, the "skeleton crew" (minimal number of staff) on night shifts may indicate a lack of supervision potentially leading to workers decreasing the intensity of their work pace. Ultimately, they would have more autonomy and would therefore be able to go at their own pace, resulting in a lower perception of workload than their daytime counterparts.

However, when the workload increases to an intense level, the responsibility for conducting all of the work is placed squarely on the night shift worker without the benefit of coworkers or supervisors to share the workload. Facing even a single crisis at work during the night shift can be an intense psychological stressor that mimics a prolonged period of work simply because the worker is alone and does not have the authority or the support of coworkers and supervisors. Further, working at night places a physiological burden on workers such that

their capacity to perform the work is diminished (Costa, 1996; Harma, 1993). Even when holding workload constant between workshifts, this could cause a higher perception of demands among workers. This could account for the statistically significant association found between physical demands, and evening/night work in the study by Davies-Schrils (2011).

Alternatively, it is possible that the above factors would balance out such that workload perceptions would not be quantifiably different. The real differences may lie in the qualitative nature of the workload, including factors not typically captured in validated instruments. Thus, one of the aims of this study was to address this issue with qualitative data.

Hypothesis 2a: Workers' perceptions of *workload* will vary by workshift.

Even if there are no consistent patterns of workload within workshift, the question then remains whether workload is more or less related to burnout for people on different workshifts. In other words, one might ask: is workload more strongly related to burnout for night shift workers perhaps due to a base-level of physical exhaustion that lowers their tolerance for high work demands? In this situation, researchers would not necessarily find statistically significantly higher work demands for night shift workers, but would find a stronger relationship between that workload and burnout on the night shift (i.e., a moderated relationship).

Hypothesis 3a: Workshift will moderate the relationship between *workload* and burnout.

Control. The Areas of Worklife theory also states that workers should have control over their work tasks and be able to exercise authority over their work so they can shape their work environment and tasks to fit their needs and preferences. According to Leiter and Maslach (2011), control is in jeopardy when workers experience role conflict. Different, and multiple authority figures is often a contributor of role conflict because workers can receive conflicting

directives and, without the element of control, they are not able to set priorities to navigate the situation and meet their work demands. The AWS items reflect control over work, autonomy and influence over the physical work environment. The higher the AWS score for *control*, the more congruent the workers' ability to control their work is with their preferences. The following hypothesis should therefore be consistent with the literature:

Hypothesis 1b: Workers' perceptions of *control on the AWS* will be negatively associated with exhaustion and cynicism, but positively associated with professional efficacy.

Shiftwork research has touched on the topic of control for many decades, especially as it relates to control over one's schedule (i.e., Harma, 1993). When defined in that manner, there has been a consistent link between lack of control and negative psychological outcomes for shift workers. In addition to the empirical support for lower schedule control on the night shift, there is anecdotal support for how/why this phenomenon exists. Workers on the night shift will most likely report decreased schedule control because of 2 reasons: 1) the night shift is undesirable to workers, so managers will have a difficult time finding replacements when these individuals request a schedule change, and 2) the night shift is usually staffed by fewer people, so those who are trained for that work and have demonstrated a tolerance comprise a smaller population to choose from when trying to find a replacement.

However, less is known about whether workers on different shifts systematically experience different levels of control over job tasks, irrespective of their level of schedule or roster control. The studies that have included factors such as job control have shown lower levels of decision authority (a component of job control in the DCS) to be associated with night work and rotating work schedules. A recent study (von Treuer, Fuller-Tyszkiewicz & Little,

2014) found higher levels of managerial control for night shift workers. In this study, managerial control was measured by items that assessed perceptions of the degree/scope of management oversight. Even though the larger body of research supports lower perceptions of control among night shift workers, the various conceptualizations and operational definitions of control make it difficult to understand how these findings all fit together. At the very minimum, the state of research findings regarding control over work as it varies between day and evening/night shifts can still be described as meaningful because significant differences are detected, but somewhat mixed due to variations in the direction of those differences. Therefore, it is reasonable to hypothesize the following:

Hypothesis 2b: Perceptions of *control* will vary by workshift.

Finally, there may be no significant differences between mean levels of control for workers on day and night shifts, but when examined relative to burnout the differences may become clear. The next hypothesis is aimed at determining whether there is a different relationship between control and burnout for each workshift (i.e., a moderated relationship).

Hypothesis 3b: Workshift will moderate the relationship between *control* and burnout.

Community. Leiter and Maslach (2011) referred to the domain of community as "the overall quality of social interaction at work." Although the authors mentioned isolation as a negative influence on community, they highlighted "unresolved conflict with others on the job" as the "most destructive" towards community because it diminishes the utility of community as a means of social support. This is consistent with the Job-Demands Resources theory (JD-R; Bakker et al., 2003; Demerouti et al., 2001) which posits that resources such as social support

can be used to buffer against stressors such as job demands or workload. Thus, the following is hypothesized:

> *Hypothesis 1c*: Workers' perceptions of *community* on the AWS will be negatively associated with exhaustion and cynicism, but positively associated with professional efficacy.

Shiftwork literature has little to offer with respect to the work contextual feature of community. Specifically, there have been very few statistically significant findings regarding social support differences across various workshifts. The closest thing to a significant finding was in a recent study of nurses (von Treuer et al., 2014) in which night workers were found to have lower coworker cohesion compared to evening and rotating workers. The authors posited that workers on evening and night shifts, who were isolated from supervisors, coworkers or both (absolute isolation), experienced a work environment where interactions with others are limited and the sense of community was based on a very small number of interactions. Thus, leading to a low sense of community.

Alternatively, these workers are still part of a community (albeit a small one), and a team structure may emerge due to the need for collaboration and mutual support at night when unusual (perhaps crisis-oriented) circumstances and/or lower work volume might create opportunities for team functionality. Provided the worker is not totally isolated, there may be more chances for trust and cohesiveness to develop in this environment. This would lead evening and night shift workers to report a higher sense of community. Similarly, for 1st shift workers, contradictory arguments could be made regarding the expected relationship between workshift and perceptions of community. The day shift traditionally operates with more staff, which may lead to plenty of

opportunities for a strong sense of community. Likewise, this may also lead to opportunities for conflicts between workers, unsatisfying social interactions, and negative encounters, which could potentially contribute to a lower perception of community.

As a final note, the AWS items in the domain of *community* collectively refer to the members of the worker's community as their "work group," "colleagues" and even just "people." Therefore, one's supervisor is not explicitly mentioned. This is important to note because in cases where he/she is physically isolated for the majority of their shift, or are just isolated from their supervisor (e.g., evening or night shift), respondents may still report positive perceptions of community because they are thinking about the way their workgroup interacts with them during times of shift transition or when they are all together at certain events (e.g., staff meetings). This suggests the need for items that indicate the level of interaction workers experience with coworkers and/or supervisors. This study included items that were designed to capture that information. In consideration of the potential for perceptions of community to vary by workshift in either direction, the following is hypothesized:

Hypothesis 2c: Workers' perceptions of *community* will vary by workshift.

Hypothesis 3c: Workshift will moderate the relationship between *community* and burnout.

Reward. Leiter and Maslach (2011) described the area of *reward* as the "extent to which rewards – monetary, social and intrinsic – are consistent with expectations." Specifically, the authors describe "service recipients, colleagues, managers and external stakeholders" as agents in the distribution of rewards in the form of recognition. Regardless of the type of reward, the transactional nature of this phenomenon implies the need for a mode of transfer. Workers need to be able to receive recognition from those agents in order to know they were rewarded, and for

workers on less populated workshifts those modes of transfer/communication are diminished. Therefore, the following is hypothesized:

> *Hypothesis 1d*: Workers' perceptions of *reward* on the AWS will be negatively associated with exhaustion and cynicism, but positively associated with professional efficacy.

As there is little empirical work examining the comparison between perceptions of reward among workers on day versus night shift, it is difficult to generate hypotheses as to the relationship between reward and workshift. Anecdotal evidence suggests the possibility that the positive achievements of night workers may be observed less often due to the presence of fewer staff on a lighter duty shift. The result is that exemplary work performance, or activities, that would be worthy of recognition are not observed, subsequently recognized, or rewarded. Supervisors will not "happen to catch" instances of their good work effort. Simply put, the agents who would be able to recognize, and possibly reward, accomplishments of night shift workers are not present during those hours, resulting in decreased or imbalanced reward systems when compared to employees on day shifts. Conversely, supervisors would also not be present to observe low performance and/or errors which would not only limit rewards but potentially bring consequences (e.g., low performance ratings). On the other hand, night shift workers often will receive a pay differential (increased rate of pay) for working non-traditional hours. This monetary reward may increase their perceptions of reward from the organization. Once again, there may be no significant differences between mean levels of reported rewards for workers on day and night shifts, but when examined relative to burnout there may be differences. Thus, the following two hypotheses:

Hypothesis2d: Perceptions of *reward* will vary by workshift.

Hypothesis 3d: Workshift will moderate the relationship between *reward* and burnout.

Fairness. Leiter and Maslach (2011) referred to the domain of fairness as "the extent to which decisions at work are perceived as being fair and people are treated with respect." This statement reflects many different types of justice that have been identified in the literature (e.g., procedural, distributive and interpersonal justice). Studies have also linked the idea of fairness to burnout via the theoretical framework of equity theory and effort-reward imbalance. Overall, the literature is supportive of a negative relationship between fairness and burnout. People who perceive unfair, or inequitable situations at work are more likely to experience burnout. A review of the AWS items in the fairness domain confirm that the authors have tapped into distributive and procedural justice constructs. Therefore, the following is hypothesized:

Hypothesis 1e: Workers' perceptions of *fairness* on the AWS will be negatively associated with exhaustion and cynicism, but positively associated with professional efficacy.

In the context of workshift, both the daytime and nighttime workers could be exposed to positive or negative experiences relative to justice. There is very little literature on this topic, however anecdotal information suggests that evening and night shift workers would not be able to watch, communicate, and/or have a voice regarding procedures and employee treatment across the majority of the staff, therefore they would report neutral or negative perceptions of fairness. It could also be argued that there will be a decreased perception of fairness among day workers because they are able to witness more inconsistently applied work procedures than their night time counterparts. Regardless of the direction of the relationship, it is reasonable to expect that

different work environments and exposures to staff may result in different perceptions across workshifts, or that perceptions of fairness on one of the workshifts will be associated with burnout, whereas the same will not be true for a different workshift. Thus, the following are hypothesized:

Hypothesis 2e: Workers' perceptions of *fairness* will vary by workshift.

Hypothesis 3e: Workshift will moderate the relationship between *fairness* and burnout.

Although the study results could find a lack of statistically significant differences between perceptions of fairness among workers on different shifts, the qualitative component of this study was aimed at providing additional information regarding this relationship.

Values. Leiter and Maslach (2011) described the domain of value congruence as a match between workers' personal goals and the goals of the organization. Such an alignment has been associated with feelings of engagement, and the presence of conflicting values has been associated with negative outcomes such as burnout. In fact, there is literature suggesting that workers who sense a misalignment between organizational values and how work is conducted are more likely to become cynical about the organization. Thus, there may be a parallel between that and the cynicism aspect of burnout. In support of this, Leiter and Maslach (2009) have found support for the relationship between value congruence and all three dimensions of burnout. Therefore, the following is hypothesized:

Hypothesis 1f: Workers' perceptions of *value*s on the AWS will be negatively associated with exhaustion and cynicism, but positively associated with professional efficacy.

In the absence of research about how perceptions of value congruence differ between workers in different shifts, it is difficult to generate hypotheses. It could be argued that evening

and night shift workers would have fewer opportunities to interact with the agent representing the organization and would have neutral perceptions of value congruence, whereas daytime staff would have more opportunities to view the degree of alignment between the stated mission and how business is carried out on a daily basis. The result of this situation may be an inconsistent perception of values with evening and night shift workers, and a consistent perception of values among day shift workers that is truly dependent upon organizational and management practices. Thus, the following are hypothesized:

Hypothesis 2f: Workers' perceptions of *values* will vary by workshift.

Hypothesis 3f: Workshift will moderate the relationship between *values* and burnout.

General Method

Overview

This research was conducted utilizing a mixed methods approach that involved both a qualitative and a quantitative study. The decision to use this approach was based on the premise that this combination would provide the best support for addressing all of the study hypotheses in a manner that could not be achieved by using a single method. A quantitative method of investigation allowed the researchers to deductively test the theoretical model using an established instrument that was designed for this purpose. However, it became apparent in the early stages of development of this dissertation that the addition of a second qualitative component would be necessary to capture shift-related phenomena not normally measured by the AWS instrument (Leiter & Maslach, 2000), such as potential shift-specific driving factors.

Study 1. During the design phase, the decision was made to conduct an initial qualitative study (Study 1), to gather insights from employees in the target population that would facilitate

the creation of new survey items to complement the AWS. The result of this approach was the ability to include items that were crafted for this specific industry and work context. This type of research design (a qualitative, then quantitative study) is known as a mixed method exploratory sequential design (Creswell & Plano Clark, 2007). Choosing this research design required the consideration of several factors beyond the basic decision to include both methods. A sequential, rather than concurrent design (Morse, 1991) provided the opportunity to use results and data from the first (qualitative) analysis in the development of survey items for Study 2. Although this took increased effort and lengthened the period of time necessary to complete the research, the results obtained through study 1 were critical to identify context-specific variables that would not have been captured by the questions in the AWS, as it has been constructed to generalize across all industries. These variables are workshift, and work contextual features that are specific to the telephone crisis counseling industry.

The decision regarding how to design Study 1 first required the consideration of several factors based on the recommendation of Kvale (1996). One such factor was the key decision to conduct single interviews per participant as opposed to group interviews (a.k.a. focus groups). On one hand, the dynamic of a group setting might have provided the venue for unique insights that only emerge through conversation and synergy, but the researcher has less control and ability to focus the group on particular themes. Although the goals of Study 1 were exploratory in nature, it was still necessary for the interviewees to stay focused on topics that fall within the themes inherent to the pre-identified theoretical framework (the AWS). In this case, greater control was preferable to keep the content of the interviews on target. The fact that this study took place in a work setting also had implications for design. Interviewees would likely

have taken social dynamics into consideration before responding to or bringing up issues for discussion. Thus, the use of individual interviews allowed participants to speak more freely without fear of social ramifications from work peers. This design also minimized the potential for interviewees to experience anxiety about sharing their personal views or feelings with other coworkers, and finally, phone interviews made it possible for the researcher to guarantee complete confidentiality.

Study 2. In Study 2, an online survey was used to gather both quantitative and qualitative data from participants. Quantitative data was obtained through the inclusion of 2 validated scales (AWS and MBI-GS), and additional multiple-choice items. A series of open-ended questions were also included in the questionnaire to allow a process of gathering insights from the participants, and to provide the researcher with additional details that may be useful for interventions. This type of research design is known as a mixed method explanatory concurrent design (Creswell & Plano Clark, 2007). Choosing this research design required the consideration of several factors beyond the basic decision to include both quantitative and qualitative data. A concurrent, rather than sequential design (Morse, 1991) is the most expedient method to obtain results from a quantitative and qualitative analysis in circumstances when time, resources, and the availability of participants are limiting factors. Given the fact that a qualitative study was already conducted prior to Study 2, the inclusion of a qualitative component to the survey was aimed at providing context for survey responses (as the open-ended items are inherently part of the survey), and offered the opportunity to converge data across samples. Additionally, it would have been necessary to recruit more organizations for the research endeavor if a third study was part of the design. Employee time is a valuable

commodity in the mental health services industry, especially in the case of organizations that operate on a 24/7 basis. Therefore, the structured, open-ended questions included in the Study 2 survey provided the best opportunity to gather additional qualitative data considering the time and resource constraints of participants.

Mental Health Services Population

As discussed, research and development into burnout was originally focused on the mental health services industry, perhaps partly due to the accessibility of that working population for research purposes, but also due to the intense and emotionally burdensome nature of the work. The demand for these services has not waned over the years and the workers within this industry continue to be a vulnerable population. According to a recent review of studies regarding the prevalence of burnout (Morse et al., 2012), 21-67% of workers in the mental health services industry may be experiencing high degrees of burnout. As the authors stated, "this is both surprising and ironic, given the goals of mental health organizations for improving the behavioral health of individuals." Their organizations need measurement and intervention to protect workers from the mental and physical health consequences associated with burnout. Furthermore, the implications that burnout has for turnover and absenteeism are problematic for continuity and quality of services in the mental health industry. Couple this problem with the negative associations of shiftwork, and these organizations may be facing a significant problem in maintaining sufficient staffing levels to provide continuous services.

Workers in the mental health service industry are therefore classified as a vulnerable working population, which is a priority for researchers to investigate and assist according to the National Occupational Health Research Agenda (NORA). NORA utilizes a strategy of

conducting sector specific research with cross-disciplinary groups of researchers who are similarly interested in particular industries. The field of mental health services falls under the National Healthcare and Social Assistance group. According to the research agenda for this sector, it is a priority to investigate mental and physical health issues specifically related to scheduling, and ways to reduce work overload such as the implementation of organizational and management strategies. Workers in the mental health services industry who provide those services over the telephone at crisis centers (i.e., Crisis Call Specialists) also fall under the telecommunications sector due to the fact that they conduct their work over the telephone. According to the NORA research agenda for the Telecommunications sector, work scheduling and stress are also priority areas for researchers who are interested in aiding workers in this industry.

For Crisis Call Specialists, research into the antecedents and consequences of burnout is especially meaningful, in part driven by the emotionally draining nature of the work they conduct (Morse, Salyers, Rollins, Monroe-DeVita, & Pfahler, 2012). As described earlier, Crisis Call Specialists experience shiftwork to aid their organization in maintaining continuous operations, therefore conducting research with this group provides an opportunity to study shiftwork and burnout among workers who may be especially at-risk. Burnout has been studied relative to shiftwork but, unlike other mental health outcomes, the results have shown mixed support. Therefore, it follows that a research study investigating the mechanisms relating shiftwork and burnout could provide an opportunity to identify and articulate those factors.

The organizations that provide telephone crisis counseling, or information and referral services, are typically non-profit and funded by any or all of the following: local and state

governments, non-profit funding organizations (e.g., the United Way), foundations, or via fee-for-service revenue to local non-profit and government agencies. These fee-for-services arrangements may be in the form of contracts with local or state governments to provide services related to disaster and emergency management. These arrangements often result in the need for workers to accommodate the expectations of multiple funding agencies while executing their work tasks. The provision of telephone crisis counseling on a 24-hour basis is conducted across the U.S. in agencies that provide access to their services through dialing 2-1-1 on a landline or cellular phone. Currently, over 90.6% of the nation has access to a 2-1-1 call center (U.S. 2-1-1, 2013). There are currently no statistics to support an estimated number of workers at these organizations, however they vary in size from agencies with as few as 15 people, to as many as 500 (U.S. 2-1-1, 2013).

Recruitment and Study Samples

Organizations that fit the description for the target industry were contacted via two different methods. The leadership at one primary organization communicated their support for the research endeavor to their leadership counterparts at 11 other organizations in the industry. This resulted in the successful recruitment of 2 organizations for participation in Study 1. No further organizations responded to this recruitment method, so an announcement was posted on the listserv of the national professional society for this industry (Alliance of Information and Referral Services: AIRS). The announcement stated that a survey of work experiences was being offered to any individuals and/or organizations interested in participating in the research study. The research opportunity was described as offering a raffle for participants to win a $25 gift certificate to Amazon.com, and organizations with a number of employee participants (to

sufficiently constitute a useful sample size) would receive a brief organizational report providing aggregate-level results. Three additional organizations were interested in Study 2 in order to benefit from the information that would be provided in the brief organizational report.

Thus, the overall sample for both studies consisted of five organizations, across several regions of the United States (Southeast, Northeast, Midwest, Southwest and Northern Plains). All organizations operated on a 24/7 basis, except for one who employed telephone counselors through the evening and turned the phone service over to another facility for the night shift.

Study 1

Method

The goals of Study 1 were to gather qualitative information from job incumbents in the target population regarding the types of work contextual features that influence worker perceptions of burnout, and to generate new items for the AWS that would apply to this occupation. Participants were asked directly about the aspects of their work context that fit within the six domains of the AWS, so the new items would fit within the deductive framework of this theoretical model. After the interviews were completed, the data were reviewed and themes of the interviews were generated using an inductive process. Thus, it was possible for the interviewees to describe an aspect of the work context that did not fit within the operational definition of the AWS domains. All of the themes that emerged from the data analysis were reviewed and considered with this criterion in mind to ensure the new item content was not inconsistent with the conceptual meaning of the underlying AWS domain.

The overall length of the AWS (28-items), and the survey in its entirety, was also taken into consideration during the item generation process. A conservative approach was taken with

respect to item generation so there would be a minimal increase in the overall burden of responding to the survey. No more than 3 supplemental items were generated for any of the six AWS domains, and the overall sum of new items did not exceed 11 total. The topics of the item stems were chosen to correspond as closely as possible to both; a) the underlying concepts of the AWS domain as defined by Maslach & Leiter (2004) without duplicating existing items, and b) the general themes that manifested during the interviews. Therefore, a brief description for the rationale behind item generation is provided within each domain area below.

Participants

The participants of Study 1 were job incumbents at a crisis call center. A total of 9 individuals from two different organizations were recruited to participate via an online recruitment effort on a national listserv that is a professional society for many organizations within this service domain. Descriptive information about the study sample can be found in Table 2. Participants were recruited from all workshifts (i.e., day, evening, night). The final sample included 3 individuals who worked permanent, full-time hours on evening/night shifts, and 6 permanent daytime workers. Job tenure ranged from 1-10 years at the organization (M = 3.9, SD = 3.0), and age ranged from 22-48 years (M = 32, SD = 8.4). The gender distribution for this sample was consistent with expectations based on industry statistics (67% female).

Measures

The method utilized for this data collection was a 30-minute, semi-structured phone interview (see Appendix A for questions) designed to elicit information about participants' work experiences. The aim of this research was to investigate whether, and how, any one of the six domains outlined in the AWS (Leiter & Maslach, 2000; i.e., *workload, control, community,*

reward, fairness, values) operated in this occupational environment. Therefore, a deductive approach was necessary to generate interview questions that adhered to the theoretical framework. Specifically, the interview included questions about the interviewees' perceptions of the work context as related to each of the six domains outlined in the AWS. An example question is, "what types of things in your work give you a sense of 'workload' at your organization?... at your job?... in your workshift?" Data obtained from the qualitative interview, including basic demographic information, was retained in written notes taken during the interview, but no names were recorded to protect the confidentiality of the participant.

According to Kvale (1996), designing and thematizing are often overlooked phases of the qualitative research process because researchers may glaze over these pieces in their eagerness to engage in data collection efforts. However, they are critical activities that ultimately lead to a more efficient investigative and analytic process. Thematizing refers to "a conceptual clarification and a theoretical analysis of the theme investigated, and the formulation of research questions" (p. 89). With respect to the current research, interview questions were focused on the present experiences and feelings of the interviewees. Notes from the interviews were reviewed and thematized within each of the structured conceptual domains outlined by the Areas of Work Life (AWS) theoretical framework, and separated by workshift. Results are described below with respect to each of the six work contextual domains, and themes are listed in Tables 3 and 4.

Results

Workload. Interviewees cited many different work tasks that contribute to their workload on daily basis. At a basic level, their main job activity is to answer incoming calls, and provide information and referral, and/or telephone crisis counseling to the callers. "Information

and Referral" is an industry term that means providing information about agencies or non-profits in the community that provide assistance with anything from basic needs (e.g., food, shelter), to financial assistance, or mental health services. The referral component of that service may involve contacting the agency on behalf of the caller, or simply providing the contact information to the caller so they can advocate for themselves. From a task perspective, this activity not only includes operating the telephone, but also involves searching an online database for community resources to suit the callers' unique situation, completing electronic and paper records with demographic information as well as call information, and contacting social services on behalf of the callers when appropriate.

The content analysis, coding, and thematizing of the interview data resulted in the creation of a 2-level theme hierarchy. The highest level was comprised of 13 unique themes across all six of the Areas of Worklife, and several sub-themes within them. (See Tables 3 and 4 for complete theme listing.) Workshift was noted for each interviewee such that the themes could be split by that variable to look for differences in topics, or between frequency of topics across day or evening/night workshifts. Within the domain of *workload*, three high-level themes emerged.

Caller wait times must be minimal. At each of the participating call centers, there are typically several callers waiting on hold to receive assistance at any time of day. In the case of the participating centers, the call representatives are aware of the total number of callers waiting on hold, as well as the length of time the next up in the queue has been waiting on hold. This is due to specialty software for call centers that provides real-time data, as well as the ability to run analytical reports, monitor call statistics, performance of each operator, etc. Although the

software used by any given call center may differ, a few of the popular software packages display these statistics along with color coding and visual indications of prolonged hold times. Interviewees described the volume of calls they receive as an area they view as particularly stressful, especially when faced with the knowledge that a long queue of callers have been waiting, and that any one of those individuals may be in a mental health crisis. Although a few of the daytime interviewees mentioned that they have become accustomed to this reality of their work, many of them reported still being worried about being able to keep up with the workload (56%). This is not necessarily the case for evening and night call representatives, as the call volume is much lower during non-traditional, daytime business hours. However, the evening and night staff are often single-staffed. This means that even when the call center representative receives only one call from someone who is in the middle of a mental health crisis, there is a real possibility that other callers may phone in for assistance only to be forced to wait until that call ends. This is especially problematic if the next caller is also in a mental health crisis, because a long hold time may discourage them from following through to seek help. The night shift interviewees (66%) reported higher levels of stress when this type of situation occurs, as well as when the more extreme calls (e.g., such as suicidal callers) are received, which typically happens at night.

Call topics are emotional and personal. The individuals who call for assistance present a wide variety of needs. Calls centers describe their service as a place to "find help" and "give help", because they also maintain a database of volunteer opportunities for those seeking to help the community. The term "help" can refer to many things and, although call centers report a high percentage of their annual calls as being for people to find help for basic

needs, there is also a sizeable number of calls where people are seeking mental health services for themselves or someone else. In those cases, the caller may need to talk with the call representative about their problems, which can lead to conversations about personal and sensitive topics. This is more often the case for the evening/night call representatives, because mental health calls typically occur at night (100% of evening/night staff reported this as impacting their workload, as opposed to 33% of day staff). Either way, this is an aspect of their work that contributes to their overall sense of workload, and is not likely to change.

Few community resources. The communities that provide information and referral, or telephone crisis counseling, are usually ones with a high population with a limited number of agencies that provide help. This results in a number of callers who phone in looking for resources having already exhausted all that the community has to offer. This common occurrence was brought up by 100% of evening/night staff, as well as 56% of day staff, because it increases their workload when they ultimately cannot find help for the callers and need to explain there is nothing else they can offer in the way of assistance. Given that time is a consumable resource, the additional time taken by the worker to provide the explanation and the counseling that may follow the delivery of bad news, contributes to the effort and perception of workload. This is also an issue they face when callers ask for assistance at hours of the evening/night when the agencies are typically closed, but the caller was seeking immediate help. As one interviewee stated, "the hardest part of the job is having to tell a family whose electricity was just shut off that the social services agencies are closed right now, so they have to call back the next day to find out if they qualify for assistance." At this point, the call representatives explained that they would try to trouble shoot with the caller to see if there was any solution they

may not have thought of yet to solve their problem. However, the bottom line for the staff is being left with a feeling that they were unable to provide help, or even a linkage to services. This lends to an increased perception of workload, and to a sense of ineffectiveness at work.

In order to identify the best theme to serve as a base topic for the supplemental items, all three of the above themes were considered. Although the prevalence of all three themes were fairly similar when aggregated across workshifts, the concept of callers waiting also reflects a performance domain for their evaluations, and transcends all types of calls or workshifts. Therefore, the following items were generated, 'I am comfortable knowing that calls will be answered as soon as possible,' and 'I start my shift worrying about whether I will be able to answer enough calls.' These items were measured on the same response scale as the AWS, (5-point Likert scale, *strongly agree* to *strongly disagree*).

Control. Interviewees were asked to reflect on their perceptions of control at work. Four high-level themes emerged from the interviewees relating to *control*.

Collection of demographic data. Sponsors needs for specific demographic data can make the work more challenging. All calls generally require a minimum amount of demographic data (e.g., zip code, age of caller) as this information can help the call representative identify where the closest resources are located relative to the caller, or whether the caller is eligible for a certain type of service. However, it is sometimes the case that a sponsor requests the collection of additional demographic data to serve research purposes. This may include asking the caller whether they have heard of a certain agency, or who referred them to call this number, etc. In order to collect this data, the call representatives are asked to follow a script, which offers them little flexibility on the call as to how they present

these questions. A number of interviewees (44% of day staff, 100% of evening/night staff) reported this is difficult because not all calls lend themselves to this type of inquiry. Specifically, callers who present as highly emotional (e.g., crying), are resistant to providing demographic data and can become agitated when the call representative asks questions of this nature. Interviewees reported that this need for data is a constraint that restricts their use of judgement as to whether it is appropriate to ask those questions during such a situation.

Physical work environment. Call centers are usually run by non-profit organizations, therefore office space and other physical resources can be quite limited. Daytime interviewees (67%) reported that limited desk space, and a cubicle environment, provides them with little control over how their work area is designed. This is also an issue when their workspace is shared with evening/night staff. In those cases, the shared desk space needs to be kept generically organized, with little to no personal items in the space.

Few community resources. 100% of the night staff reported that they feel as though they have little control over how and whether they can refer callers to resources. This is partly because the community resource(s) to which the representative would refer the caller are often limited by funding and by their hours of operation, which exclude the provision of evening or night services. All evening/night staff interviewees reported that they, "already know how the calls will turn out" when they start their shift, because of these limitations.

All three of the above themes were considered as topics for new items. However, both the lack of sufficient community resources as well as the need to collect demographic information are immovable constraints that the organization and their sponsoring agencies must contend with as a reality. Although there is still merit to investigating whether these topics are

quantitatively linked to burnout, the physical work environment was chosen as a topic for this supplemental item to maximize the potential for the data to yield avenues toward intervention. Therefore, the following item was generated, 'I can influence my work environment.' This item was measured on the same response scale as the AWS, (5-point Likert scale, *strongly agree* to *strongly disagree*).

Community. Interviewees were asked to reflect on their perceptions of community in the work environment. Four high-level themes emerged from the interviewees relating to control.

Help to and from coworkers. According to the themes that emerged from the daytime workers, it is helpful to be able to rely on coworkers while fielding a difficult call (67%). Calls can be challenging for many reasons starting with the most basic; the call representative is unfamiliar with a certain community resource and needs to reach out for advice from a coworker before referring the caller; to more complicated situations, such as needing to call for ambulatory services while talking to a person in crisis on the other line. Both circumstances are easier to handle with coworkers nearby to offer information, or a second pair of hands.

Physical work environment. The daytime workers also presented a downside to the crowded work environment; the noise and distractions of multiple people in close proximity to each other, talking on the phone and/or to a coworker (78%). Although the center can take measures to reduce the noise, such as carpeted cubicles, there are circumstances when a noiseless environment is imperative and that is not available for the employees. For example, a telephone representative who is counseling a suicidal caller would need to be careful not to allow the caller to hear background noise as they may react negatively to the interruption. In addition, those types of emotionally charged calls require a great deal of focus on the part of

the worker, and a noisy call center may constitute an additional stressor. Although this topic emerged as a prevalent theme when interviewees were asked about community, the conceptual basis for this area of worklife was intended to reflect more of the interpersonal quality of the work context (e.g., whether coworkers formed a cohesive group, and supported each other). In light of that, this theme was not used to create a new item.

Office politics. Both day and evening/night staff reported problems with office politics (44% and 33%, respectively). Their perceptions are that management chooses staff for unknown reasons as their favorites, and does not offer the same support, or information to those that are not considered to be in that category. This is related to community, because whether or not you are in the category of favorites will (according to the interviewees) determine how positive and fulfilling your sense of community is at the organization.

Caller wait times must be minimal. As with the area of workload, there is a concern among evening/night workers (100%), that the lack of coworkers on their shift provides the unique difficulty of taking only one call at a time. Although, the work environment is quiet and there is less commotion, it is harder without coworkers to handle specific situations. This lack of community makes their work experience difficult.

In order to identify the best theme to serve as a base topic for the supplemental items, all four of the above themes were considered. Call was represented in the workload domain supplemental items, so in pursuit of variety across domains that was not considered as a topic for the new items. Physical work environment (e.g., noise-level) was not consistent with the conceptual basis for the community domain, therefore it was not a candidate topic for new items. Office politics also borders on the domain of fairness, therefore helping others was chosen as the

core topic for new items. Therefore, the following items were generated, 'I feel as though I'm part of a community,' 'My workgroup and I can communicate when the need arises,' and 'I feel disconnected from my coworkers.' These items were measured on the same response scale as the AWS, (5-point Likert scale, *strongly agree* to *strongly disagree*).

Reward. Interviewees were asked to reflect on their perceptions of rewards in their work environment. Most of the interviewees began their responses with a reflection upon the reward of helping others, and providing a service to people in need. However, many also expressed disappointment with the fact that their pay was not competitive with equivalent call center jobs at for-profit organizations.

Non-competitive pay. Pay is not competitive with other call centers in for-profit organizations, and the interviewees reported that they are aware of this difference in compensation. However, this normally led participants to the topic of values, and to the satisfaction they derive from helping others which keeps them in the field. As one stated, "it's not like anyone goes into this field to make a ton of money… we do it because we want to help people." Nonetheless, some still expressed frustration with this negative aspect of their jobs, citing the difficult work that engenders feelings of inequity, particularly when reflecting on how much pay they receive to perform such a critical community function.

Communal food as reward. Many interviewees commented on how rewards beyond pay mainly consist of communal food, and perhaps a gift card, but little else. In fact, evening and night workers often felt excluded altogether, stating that they would be "lucky" to find remnants of communal food brought in by another (daytime) worker, unless someone brought something specifically for them or thought to put it aside for their workshift. Otherwise, participants did not

note anything extra as a job reward. When asked the question about rewards, one interviewee stated, “Rewards? What rewards?”

Communication breakdown. A third major theme that came up during the interviews regarding rewards was the communication breakdown between evening/night shifts and the rest of the staff, including management. Participants on those workshifts reported the feeling that although they were unaware of opportunities for rewards, that did not necessarily mean rewards were never distributed. Rather, events had taken place but were not communicated to employees on non-traditional workshifts. Based on this finding, it seems that the exclusion (albeit unintentional) of those who did not work in the daytime from organizational news and events was a hindrance that outweighed some of the possible rewards for working on difficult workshifts (e.g., flexible daytime schedules, pay differentials).

A review of the AWS items in this domain revealed that although perceptions of rewards are indeed one of the six domains, a few important base perceptions were not assessed by the instrument. Based on that finding, the following items were generated, ‘I am not rewarded enough for my work,’ and ‘There are opportunities to earn rewards.’ These items were measured on the same response scale as the AWS, (5-point Likert scale, *strongly agree* to *strongly disagree*).

Fairness. Interviewees were asked to reflect on their perceptions of fairness in the work environment.

Office politics. One of the major themes that emerged regarding the topic of fairness is office politics. Interviewees during all shifts reported sometimes feeling as though there are a select group of employees who are favored over others, prioritized for scheduling flexibility,

offered special opportunities, receive extra time with management, and other unspecified privileges that potentially ease the stress of a difficult job. As one interviewee stated, "I'm not part of the in-crowd."

Collection of demographic data. One of the more challenging job characteristics identified by the interviewees was that of collecting demographic data from callers. It is an integral part of their jobs to ask callers for basic, non-identifying information such as zip code, age, gender, and perhaps household income, so they can identify the most appropriate community resource or tell the caller whether it appears as though they may qualify for certain types of assistance. However, in addition to those data that a caller may recognize as relevant to their inquiry, the call representatives may also be required to collect information that dives deeper into the caller's situation. This can be difficult, especially when dealing with a call that involves a person who is showing a degree of discomfort or emotionality during the call. The interviewees who discussed this topic were eager to admit the potential for data to help inform the sponsors about the needs and demographic characteristics of the community, but the list of information they require to be collected seems very long and may not take into consideration the sensitive nature of some of the calls. In addition, interviewees reported that sponsors, followed by management, can change these requirements (and therefore procedures) with little notice, so they have little time to consider how to integrate these questions into their typical call scripting.

Communication breakdown. This theme not only applied to the domain of rewards, but also to fairness. Evening/night workers reported being less aware of new job opportunities and office news, which puts them at a disadvantage. One interviewee stated, "they don't tell us anything."

Office politics was touched on in two of the six domains, therefore it served as the basis for the supplemental item in this domain. Specifically, the comments mainly focused on preferential treatment for "favorites," therefore the following item was generated, 'Opportunities are offered in a fair manner here.' This item was measured on the same response scale as the AWS, (5-point Likert scale, *strongly agree* to *strongly disagree*).

Values. Interviewees were asked to reflect on their perceptions of values in the work environment. While two major themes emerged during the interviews, the single most shared value between the organization and all of the respondents was the focus on helping people in need. In fact, all participants commented on this topic regardless of any previously identified negative experiences or hardships of the job. The other theme related to maintaining perspective.

Helping people is a core value. As one interviewee stated, "the work is important, and occasionally we hear good feedback from callers who tell us they got the help they needed." Those on the evening/night shifts also reported feeling as though their work is important, and that helping people is a core value. In addition to that, they reported recognizing that "not everyone can work this shift, but people still need help at any time of day or night."

Easy to lose perspective. Unfortunately, the flip side of this is the other emerging theme that was reflected by some interviews which is that, "sometimes it feels like nobody cares anymore." Interviewees reported that a combination of factors can lead to them to feel as though there will never be enough resources to help those in need, especially as time goes on and they are consistently telling people they have no more resources to direct them to for a particular type of help. However, participants also explained that this can happen for periods of time due to

circumstances like the holidays, or post-disaster recovery, and afterwards they can regain perspective by reflecting on the intrinsic reward of helping others.

After reviewing the existing AWS items in this domain, and the corresponding interview themes, two items were generated to complete the knowledge gap: 'the organization has values that are clearly stated,' and 'the values of the organization are important to me.' These items were measured on the same response scale as the AWS, (5-point Likert scale, *strongly agree* to *strongly disagree*).

Implications and Discussion – Study 1

Results from this study assisted in the development of additional survey items that were not only mapped onto the AWS, but also provided context-specific items. In order to be mapped onto the AWS, the generated items needed to correspond to the conceptual definition for each worklife area, therefore any emerging themes that did not correspond were not chosen as topics for new item content. For example, under the domain of community, one of the emerging themes was the noise factor in a crowded physical environment. Although the respondents associated this topic with community, presumably because the size of the community contributes to the noise pollution, the concept of this domain actually centers around perceptions of a supportive community (or not), rather than environmental changes due to high numbers of workers. Therefore, that particular topic was not used to create a new item.

Given that the sample size is small (n=9), and the participants were from only two organizations, these factors should be into consideration when assessing generalizability of the findings. These sample characteristics were also taken into consideration during the new item generation process, such that themes needed to emerge across all organizations to be a candidate

topic for new items. Researchers will need to conduct additional studies to gather similar data to determine whether these themes remain consistent and are indeed representative of the larger population. If so, additional items could be constructed toward the development of a measure that would flush out contextual differences between workshifts.

In addition, it is noteworthy that while some themes emerged as being unique to either the day or evening/night shift, many were shared between both work shifts (or that applied to both workshifts). In total, 18 high-level themes emerged from the data analysis, and only 5 (28%) were brought up uniquely by one workshift and not the other. (See Table 4 for themes and frequencies.) These topics represent issues that may not be a factor on the opposing workshift. For example, the theme regarding the collection of demographic data was not discussed by evening/night workers, but was described by 83% of day workers as an aspect of their work experiences that is unfair. This is due to the fact that sponsors/management occasionally change the types of data they require the call center representatives to collect during a call, but provide them with little notice and hold them accountable if they do not collect the data (or at least ask the questions). In this case, the evening/night workers did not report this particular issue. However, it is not clear whether that is because they don't perceive that as a significant challenge, or they are not tasked with the same change in procedure. Either way, this aspect of workers' experiences is relevant to their perceptions of fairness, but only among day workers. This provides some evidence that workshift may moderate areas of worklife.

The high-level themes that were brought up by both day and night workers (13; 72%), were sometimes distributed similarly across workshifts (e.g., the lack of rewards, helping people as a core value), and yet were also sometimes distributed very differently (e.g., help from

coworkers, emotional/personal call topics). This suggests that although some work experiences are relevant for both workshifts, they may differ with respect to how salient or frequent they are to a worker depending on their workshift.

Taken altogether, these findings which resulted from a qualitative investigation, support the idea that there may be meaningful differences in the work context for staff on different workshifts. Although this study provided valuable insight in and of itself, it was still necessary to move forward with a quantitative research approach (Study 2) that aided in the investigation of these findings as representative of the population. Since these issues could only be detected by a measure that is sensitive enough, or designed to reflect those differences, items were generated in an effort to enhance the sensitivity of the AWS instrument to these issues, while maintaining the conceptual basis for the AWS theoretical framework. (See Table 5 for a complete list of the new items.)

Study 2

Method

The goal of Study 2 was to test hypotheses regarding the relationships between shiftwork, burnout and work contextual features, utilizing a concurrent quantitative and qualitative design. The method utilized for this data collection was an online questionnaire designed to elicit information about the work experiences of participants. Based on the qualitative results of Study 1, the researchers created survey items with the aim of adding new content for each of the six AWS domains that would also fit the context of work in the telephone crisis counseling industry, and to a 24/7 shiftwork system. The online survey was deployed to participants, and after sending several reminders, the survey was closed approximately 2.5 weeks later.

Participants

The participants were workers, and/or supervisors from three Information & Referral / Crisis Counseling call centers that agreed to participate in the study. Descriptive information about the study sample can be found in Table 6. The participants were recruited from all workshifts (i.e., day, evening, night, irregular), and all organizations utilized similar shift systems to schedule their 24/7 coverage. The time periods for each workshift on a full-time schedule are as follows: day (7am-3pm), evening (3pm-11pm), and night (11pm-7am). This shift system runs every day of the week, however the number of staff on day shifts during Saturday and Sunday are lower than Monday through Friday in due to a call volume that is lower on average than weekdays. Part-time workers are regularly scheduled during any portion of the day, evening or night shifts when they call center requires additional coverage beyond the full-time staff. This may be during midday lunch and break times, regular staff meetings, or times of day with heavier call volumes (e.g., afternoons). Workers with irregular schedules may work any combination of the workshifts that need coverage, and this can vary from week to week.

The final sample included 86 individuals. Cases with less than 90% survey completion, and those indicating a job as administrative staff, were excluded from the analyses. However, those with the job of call center representative, resource specialist, or supervisor were retained. After the exclusions, 78 cases remained for analysis. Due to a small n in the evening category, evening and night cases were combined into one category called 'evening/night.' The overall sample included 54 day workers, 13 evening/night workers, and 11 workers with irregular schedules.

The gender distribution for this sample was consistent with expectations based on industry statistics (67% female). Job tenure ranged from 1-15 years at the organization (M = 5.1, SD = 4.3), and age ranged from 22-48 years (M = 32, SD = 8.4). Within the sample, 13 participants reporting working on evening or night shifts, 54 reported working on permanent daytime shifts, and 11 worked irregular schedules across any shift. Most of the sample worked full-time (FT; 61.5%). The participation rate at each organization ranged from 34.4% to 90.2%, and the overall rate of participation was 53.9%. One of the participating organizations indicated that a portion of their staff worked remotely, therefore this variable was used for post-hoc, exploratory analyses.

Measures

The Areas of Worklife Scale. Work contextual features were measured using the Areas of Worklife Scale (AWS; Leiter & Maslach, 2000). This scale was developed based on research conducted by Leiter and Maslach (2004), and has since been used in studies to support the validity of the instrument and its factor structure. The measure has a total of 28 items that span six theoretical domains: *workload (*5-items; α=.75), *contro*l (4-items; α=.78), *community* (5-items; α=.83), *reward* (4-items; α=.85), *fairness* (6-items; α=.84), and *values* (4-items; α=.80). The response scale is Likert-type and the responses range from 1 (*Strongly Disagree*") to 5 (*Strongly Agree*), with 3 (*Hard to Decide*) as a neutral value. Alphas for all AWS domains can be seen in Table 7. An example item for *workload* is, "I do not have time to do the work I need to do." Higher agreement indicates congruence between the worker and the workplace, which is favorable.

Supplemental work contextual items. Supplemental items were generated based on the results of Study 1 that coincided with one of the six AWS domains. These items can be viewed in Appendix C. In total, 11 items were created with the following distribution across the AWS domains: *workload* (2-items), *control* (1-item), *community* (3-items), *reward* (2-items), *fairness* (1-item), and *value*s (2-items).

The Maslach Burnout Inventory – General Survey. (MBI-GS; Maslach et al., 1996). The MBI-GS has a total of 16 items that span across 3 domains: *exhaustion* (5-items; α=.92), *cynicism* (5-items; α=.84), and *professional efficacy* (6-items; α=.85). The response scale indicates frequency and ranges from 0 (*Neve)*" to 5 (*Everyday).* Higher scores indicate higher degrees of burnout, except in the case of *professional efficacy* whereby lower scores are indicative of higher degrees of burnout.

Workshift. The survey included an item that allowed participants to identify their primary workshift as one of three shifts (daytime, evening, or night), or they could have selected the classification of "irregular" if they do not work on the same shift consistently.

Open-ended questions. A full listing can be found in Appendix B. These questions pertained to each of the 6 Areas of Worklife domains (workload, control, community, rewards, fairness, values), and asked the participants to provide more detail regarding an experience that contributed to their perception of this topic in their workplace. Further, the participants were asked to speculate how the workers on the other shifts might respond differently to this question. These items were reviewed, content analyzed, themed, and coded for interpretation.

Single-item measures. A full listing can be found in Appendix D. These items addressed basic demographics including age, gender, tenure, and type of position, as well as questions relating to the amount of time they spend with various workers during their shift.

Results

Reliability Analyses. Internal consistency reliability analyses were conducted on all scales; alpha coefficients ranged from .84 to .92. (See Table 7 for all alpha coefficients.) Prior validation studies utilizing these measures supported the expectation that all minimum psychometric criteria would be met; however, a Principal Component Analysis (PCA) using maximum likelihood and direct oblimin rotation was used to account for the expectation that the factors would correlate to some degree (Costello & Osborne, 2005; Kline, 2002).

A PCA was first conducted on the MBI-GS to determine if the data supported a three-factor solution in accordance with the theoretical model. In the initial estimation, factors were free to load. The scree plot (Cattell, 1966) and Kaiser criterion (eigenvalues > 1.0; Kaiser 1960) were reviewed and used as the criteria to determine the number of factors to retain. The results were supportive of using a three-factor solution (eigenvalue >1.0), which accounted for 68.03% of variance. Since this matched the hypothesized factor structure, no further analyses were conducted. Item loadings ranged from .12 to .83 on each factor (see eigenvalues in Table 8), therefore the sub-scale constructs for burnout were created by calculating the mean of all 5 (exhaustion), 6 (professional efficacy), and 5 (cynicism) items (Cronbach's alpha = .92, .84, .84, respectively). However, it was noted that some of the items on the cynicism subscale loaded equally well on the exhaustion subscale. In particular, "I just want to do my job and not be bothered" loaded on exhaustion and cynicism, and reliability test results indicated the alpha for

cynicism would improve by .05 if that item were dropped. Although this finding supported dropping the item from the scale, it was retained to maintain equivalence with the original, validated scale, and corresponding research.

Alpha values were also evaluated for the six domains of the AWS to ensure minimum criteria were met for reliability. (See eigenvalues in Table 7.) In the initial estimation, factors were free to load and eigenvalues were reviewed for loadings higher than 1.0. The results were supportive of using a seven-factor solution (eigenvalues >1.0; Kaiser, 1960), which accounted for 70.29% of variance. Next, the estimation was restricted to a six-factor solution to be consistent with the hypothesized model. The results accounted for 66.10% of variance. Item loadings ranged from .12 to .95 on each factor (see Table 9 for factor loadings), therefore the subscale constructs for the AWS were created by calculating the mean of all items in the subscales. The alpha coefficients for all AWS subscales are as follows: workload (α=.75), control (α=.78), community (α=.83), reward (α=.85), fairness (α=.84), and values (α=.80). However, it was noted that one of the items for reward, and workload, loaded on another domain, and the reliability test results indicated that the alpha each subscale would not lower if the double-loading item was dropped. For community, fairness, and values, results indicated that the alpha would improve by .03-.04 if one of the items were dropped. The items were retained to maintain equivalence with the original, validated scale, and corresponding research, despite the fact that this finding supported dropping the items from the subscales.

As described, the results of Study 1 yielded qualitative data that contributed to the generation of new survey items for all six domains within the AWS. Given the positive results of the reliability analyses for the established scales, these analyses were conducted again on the

scales with the newly generated items to see if comparable, or at least acceptable, psychometric criteria would be met. The reliabilities for the subscale of the AWS were recalculated with some of the new supplemental items, and the alpha coefficients are as follows: workload (α=.76; supplemental item 2 omitted due to negative effect on alpha), control (α=.82), community (α=.87; supplemental item 3 omitted due to negative effect on alpha), reward (α=.85), fairness (α=.86), and values (α=.87). The results of these analyses can be seen in Table 7. Due to the fact that the reliability of the instrument was improved with the addition of many of the supplemental items, the mean scores were recalculated for all AWS subscales with the new items and used in further analyses.

Control Variables. In accordance with Spector and Brannick's (2011) recommendations for how and when to use statistical control variables, consideration was given to several potential control variables that have emerged in the research as relevant to the variables of interest in this study. Some of these include gender, age or tenure, and organization. Gender has been demonstrated in research to be linked to stress such that women report higher levels of stress due to psychosocial factors than men. Tenure is also relevant because of the healthy worker effect such that those with longer tenure may have adapted to the environment and created buffers to the impact of burnout. This is problematic because those individuals would not reflect the average tolerance to stress that workers with lower tenure would have acquired. Age is also a factor due to the ability of younger people to tolerate evening/night shifts better than older workers. Organization is the last variable of importance due to the potential for effects and circumstances that are unique to the company to have influenced levels of burnout prior to the data collection.

A multiple analysis of variance (MANOVA) was conducted to determine whether these control variables were statistically significantly related to any of the main study variables. Gender and organization were entered as a fixed factor and burnout, or work contextual variables, as the dependent variable. Only the variable indicating organization demonstrated any statistically significant relationship to burnout. Specifically, organization was linked to professional efficacy F (3, 75) = 3.98, p <.05, partial eta squared=.10, and cynicism F (3, 75) = 3.23, p <.05, partial eta squared .08. Age and tenure were also examined, and found to be unrelated to the variables of interest. Based on these results, organization was retained for use as a control variable in the study analyses.

Descriptive Statistics and Correlations. Descriptive information for key variables can be found in Tables 10 and 11, including means, standard deviations, inter-correlations, and alpha coefficients for study variables. As expected, there were significant correlations between domains on the AWS, and all three burnout sub-constructs, as well as correlations between the constructs within those instruments.

Workshift, Burnout, and Work Contextual Features

Hypothesis 1. Zero-order correlations among all variables are shown in Table 11, and provide support for statistically significant associations between all domains of the Areas of Worklife and both the exhaustion and cynicism components of burnout (correlations ranged from r = -.32 to -.62; p < .01). All of those relationships were in the expected direction which were negative, indicating that as participants' AWS scores were higher, perceptions of exhaustion and burnout were lower. Most were also statistically significantly associated with professional efficacy, except for workload and community, indicating there is support for hypotheses 1b and

1d-1f, but only partial support for Hypotheses 1a and 1c. The significant correlations ranged between r = -.25 ($p < .05$) to .48 ($p < .01$).

A stepwise multiple regression analysis was then conducted for each of the three components of burnout (exhaustion, cynicism, and professional efficacy) to determine which of the six Areas of Worklife would account for the most variance when entered into the model simultaneously. (See Table 12 for results.) Organization was entered in Step 1 as a control variable and was not significant for exhaustion, however it was significant for cynicism (standardized β = .31, $p < .05$) and for professional efficacy (β = -.34, $p < .01$). For exhaustion, the AWS domains entered in Step 2 accounted for an additional 34% of the variance (total R^2 = 35%, $p < .05$). Exhaustion was significantly related to workload (β = -.25, $p < .05$), control (β = -.20, $p < .01$) and values (β = -.24, $p < .05$). (See Figure 2.) Professional efficacy was significantly related to values (β = .48, $\Delta R = .23$, p < .001). Cynicism was statistically related to fairness and reward (β = -.35, β = -.37, $\Delta R = .40$, p < .01). (See Figure 3.)

Hypothesis 2 and 3. The aim of Hypotheses 2a-2f was to test for relationships between workshift and the AWS domains. Multiple hierarchical regression analyses were conducted using a dummy coded variable for workshift and work contextual variables as the dependent variables. None of the analyses yielded statistically significant results, therefore there was no support for hypotheses 2a-2f. (See Table 13 for results.) Regression analyses were then conducted using dummy coded variables for workshift, with burnout domains as dependent variables, however the results were not significant. (See Table 14 for results.) An interaction term was also entered for workshift and work contextual features to test for a moderated

relationship between the AWS and burnout domains, but none of the results were statistically significant. (See Tables 15-17 for results.) Therefore, Hypotheses 3a-3f were not supported.

Content Analyses of Qualitative Data

The participants' responses to open-ended questions included in the survey were reviewed, thematized, and content-coded to facilitate a frequency analysis. The questions were structured to tap into the participants' perceptions regarding each of the six AWS domains as they pertain to; a) the participants' work experiences on their particular workshift, and b) their perceptions of work experiences on the alternative workshifts. The results of the qualitative analyses are described here with respect to work domain, both in aggregate and across different workshifts. All themes and frequencies can be seen in Tables 18-19, and Table 20 for perceptions of the day and evening/night shift, respectively. Table 21 provides information regarding schedule-related variables by organization.

Workload. The initial survey question for this domain was: "How would you describe your workload, and why?" All of the respondents interpreted this question as a request to quantify the amount of workload they experience in their jobs, and therefore responded with indicators such as "heavy", "moderate", or "light." However, participants on different workshifts varied with respect to how they quantified their workload. Among those on the day shift, 60% described their workload as heavy, and 15% as moderate. A small percentage (5%) did not know because they were in training and weren't sure what to expect as they continued their tenure. 18% of respondents on the day shift did not comment. Most participants on second shift described their workload as "fair" (40%), but 30% described it as heavy, and 30% as

moderate. Night workers varied in their responses, such that they either didn't know, or commented that their work varied.

The second survey questions for this domain asked participants to think about whether participants on other workshifts might answer this question differently, and what are some of the things they might say. A number of day workers (38%) either did not know, or did not attempt to answer the question. However, 51% indicated that they thought evening and night workers would describe their workload as similarly busy due to fewer staff sharing the workload on those shifts. The remainder of day workers thought that their workshift was busier than evening and night shifts, and described those shifts as having much more "down time." All of the evening and night workers who responded to this question conceded that the day shift is busier, but as many as 40% of respondents responded with "I don't know." Many of the respondents (30%) also indicated that the night calls are very different, so it was hard to compare the workload across shifts.

Control. The initial survey question for this domain was: "How much control do you have over your work, and why?" Day workers mainly responded (30%) as having "little," or "no control" over their work, and 20% did not respond to the question at all. Alternatively, 25% reported having a high degree of control, and a small portion of respondents answered this question by specifying that they have control over certain aspects of their jobs such as their attitude, their work schedule, or how they handle their calls. A small minority reported that they may not have much control, but they have it relative to some of their coworkers. Interestingly, the majority of evening and night workers reported that they have little to no control over their work (60% and 67% respectively), although a respectable 23% reported that they have "much

control." Similar to the day workers, the remainder of respondents described having control with respect to how they handle the calls they take during their shift.

When asked about their counterparts, most of the day shift workers either reported not knowing how they would answer, or left the response blank (45% total). The remainder were split almost evenly between describing the evening/night shift has having more, less or the same control that the day workers. Most of the evening/night workers did not respond to this question (52%), reported that the day shift workers' experiences would be similar to their own (33%), or that they would have little to no control (15%).

Community. The initial survey question for this domain was: "Describe the community at your organization?" The day shift workers' responses can mainly be summarized as one of three themes: 1) don't know (33%), 2) negative culture (20%), and 3) friendly, helping each other (36%). The evening and night workers either did not know how the community was on the day shift (46%), or they stated that it was likely to be the same for day workers as it is for their shift (33%).

With respect to perceptions of community on other workshifts, the majority of day workers either did not respond to this question, or stated they did not know how evening/night workers would answer this question (47%). While 21% surmised the community on other shifts is the same as theirs, 16% of day workers specifically commented about the isolation and disconnection evening and night workers must experience due to their working hours. This may be reflected in the comments from those who had negative perceptions of the community for evening/night workers (30%), however the problem of disconnection from other staff was not raised by the off-shift workers.

Reward. The initial survey question for this domain was: "What kind of rewards are offered for your work?" On both the day and evening/night shifts, a portion of the participants reported that they do not receive any rewards for their work (17%, and 10%). However, on those same shifts, 46% of day workers and 80% of evening/night workers described some form of reward they receive at work (e.g., food, recognition, bonuses). Those who did not perceive any rewards may only represent a small percentage, but the many of the participants did not know whether there were any rewards or not (37% and 52%, respectively). What is not known, are the contributing factors to the variability in awareness of reward programs. Given that these proportions were similar across workshifts, that variable does not appear to be a driver of the variability in awareness.

Most day workers either responded that they did not know if the evening/night workers would answer this question differently, or did not respond at all (52%). A majority (39%) of the remaining respondents indicated they thought the evening/night workers would respond the same, and only 9% commented that they would respond differently because the evening/night workers may not be able to qualify for the rewards. This may be due to not reaching the call volume that merit based rewards would require, or not being observed doing exemplary work due to working alone. Similar to day workers, many (31%) evening/night workers did not know or did not respond to this item, however the majority (54%) indicated they thought the day workers would respond the same way to this question.

Fairness. The initial survey question for this domain was: "How would you describe the fairness at your organization?" For the most part, day shift workers reported perceptions of fairness at their organization (32%), and about the same proportion of evening/night workers

shared that sentiment (50%). All shifts also showed the same proportion of don't know responses (48%), but for the day shift, the remaining proportion of workers reported unfairness. They mainly attributed this perception to favoritism by management of specific workers who may have been selected as favorites for unknown reasons, or those workers who run specialized programs for the call center.

When asked if workers on other shifts would respond differently to this question, all respondents were evenly split between two generic responses (e.g., don't know, and same as our shift), with one exception: a small proportion of day workers (9%) reported that the evening/night workers do not have an accurate perception of what their job entails during the daytime. Several wrote statements that capture a similar phrase regarding evening/night workers, "they don't see everything we do." None of the evening/night workers reported the expectation that day workers would respond differently about fairness.

Values. The initial survey question for this domain was: "How would you describe the values at your organization?" Other than the portion of participant across all shifts who did not respond to this question, or stated that they did not know, the remaining responses tended to describe either a match or a mismatch of values. Day workers described a particular value of helping others (17%), whereas 47% used a more generic statement about having the same values as the organization. The majority of evening/night workers (60%) also reported that their values were consistent with the values of their workplace, although they did not list the values. Interestingly, 20% of evening/night workers, and indicated that they did not share the same values as the organization, but none of the day workers reported that same mismatch. Those who did not share the values displayed by the organization, recorded comments such as, "the

organization values giving an answer to callers, ANY answer, and quickly turning through callers. I value quality of contact over quantity." A minimal number of respondents on either workshift reported that the other shift workers would respond differently (6%-8%), and the majority did not respond (54%-74%).

Implications and Discussion – Study 2

In Study 2, I examined the relationships between workshift, all six areas of worklife, and all three dimensions of burnout (cynicism, exhaustion and professional efficacy.) (See Figure 2 for a model overview.) In support of the existing theoretical model regarding burnout and work context antecedents (Maslach & Leiter, 2004), and in support of Hypothesis 1, 5 of the 18 tested relationships between AWS domains and burnout demonstrated statistical significance (see Figure 3) when entered simultaneously into a stepwise multiple regression analysis. This technique was appropriate due to high degree of correlation among AWS domains. The results showed which of the AWS domains accounted for significant variance in each facet of burnout. Results of study variable correlations can be viewed in Table 11, and show that all AWS domains were significantly correlated with burnout as expected, except for workload and community which were not correlated with professional efficacy.

Consistent with prior research using the AWS and MBI instruments, workload and control were statistically associated with the exhaustion component of burnout (Leiter & Maslach, 2009; Maslach & Leiter, 2008). This is also consistent with the well-established demand–control theory of job stress (Karasek & Theorell, 1990) which has supported the importance of personal control in the workplace. According to Maslach and Leiter (2008), "both qualitative and quantitative work overload contribute to exhaustion by depleting the capacity of

people to meet the demands of the job" (pg. 500). When this is combined with low levels of personal control, exhaustion is likely to result. In addition to this finding, fairness and rewards were also linked to cynicism in the expected direction, and fairness was also linked to professional efficacy.

Statistically significant relationships were not found between workshift and any of the key study variables, thus there was no support for Hypotheses 2a-2f, and 3a-3f. However, a limitation in sample size may have contributed to the failure to detect a relationship. A statistical post-hoc power analysis was conducted (Cohen, 1992) using G*Power to determine the power that was achieved in the multiple regression analyses using the following parameters: the sample size of 78, an error probability level of .05, and 8 or 4 predictors depending upon the hypothesis being tested (H1, and H2 respectively).

Hypothesis 1 related burnout to each of the AWS domains. Consistent with prior research (Maslach & Leiter, 2001; Maslach & Leiter, 2009), the observed effect sizes and R^2 for the relationship between all AWS domains with each of the three burnout domains in the multiple regression analyses were as follows; exhaustion ($f^2 = .59$, $R^2 = .37$), cynicism ($f^2 = .67$, $R^2 = .40$), and professional efficacy ($f^2 = .30$, $R^2 = .23$). Thus, the observed power ((1 - β error probability) for each burnout domain was as follows; exhaustion = .99, cynicism = 1.0, and professional efficacy = .99. All of these results indicate more than adequate power, given the moderate to large effect size level (Cohen, 1991).

Hypothesis 2 related workshift to each of the three burnout domains. The observed effect size in the multiple regression analyses for all three burnout predictors was $f^2 = .01$, which

contributed to the calculation of the power achieved in this analysis (.09; 1 - β error probability). Thus, there was less than adequate statistical power to detect a small effect size level.

Although there was no statistical support for a significant relationship between workshift and the study variables, the qualitative results of Study 2 support a different interpretation. In fact, participant responses to the open-ended questions in the survey not only identified difference in experiences between workers on day, evening/night shifts, but also contributed to our understanding of how those differences manifest. For example, day and evening/night workers similarly reported a heavy to moderate workload (75% and 60% respectively), although both recognize that the opposing workshift has a unique type of work that brings its own set of challenges. For example, 51% of day workers commented on the fact that evening/night workers are "busy due to the challenges of being single-staffed on that shift." Likewise, 100% of evening/night workers recognized that the call volume is heavier on the day shift, but remarked that they take crisis calls more frequently which can easily contribute to perceptions of workload. This is a possible explanation for the lack of statistically significant differences between mean levels of burnout for participants on different workshifts. However, we know from the qualitative analysis that their work experiences are inherently different. One question that remains unanswered is whether those differences could change the acceleration, intensity or type of burnout over time? If so, then workshift is still a relevant factor, yet it is also inextricably linked to the work context.

Similar to workload, day and evening/night workers reported comparable perceptions of control (see Table 16): high control for approximately 25% of staff, and little to no control for another sizable portion of workers. However, a higher proportion of evening and night workers

reported little to no control (63%) with aspects of their work with the exception of the manner in which they handle the calls (4%). A small number of day workers also identified control over schedule and attitude (12%) as alternative ways to conceptualize control rather than referring to control over the pace and intensity of work. The meaning of attitude control is open to interpretation since it not entirely clear from the participants' written responses. For example, one participant wrote, "I can control my interactions with clients and how I interact with co-workers because I am the one in control of my attitude." Another wrote, "You always have control on how you respond or react to callers whether good or bad." Although the participants are responding to a question about control, it is interesting that those who brought up control over attitude did not mention any other type of control in their responses (e.g., control over tasks, or schedules). Instead, they chose to solely identify an internal process (attitude), as a controllable aspect of their work. With respect to the interpretation of these comments, participants may be referring to their ability to control their own work experiences by reappraising a potential threat as non-stressful in accordance with the transactional theory of stress (Lazarus, 1991; Lazarus & Folkman, 1984), and/or by approaching their work with a problem-focused coping strategy whereby they attempt to keep interpersonal interactions positive. Again, these very slight differences in perspectives, coupled with similar assessments in level of control may be a contributing factor to the lack of statistically significant differences in burnout between workers on day and evening/night shifts.

The differences between community for workshifts were less clear, in that both groups reported different positive and negative aspects of their work experiences. Day workers described favoritism by management as problematic, as well as other negative miscellaneous

aspects of work culture (20%). Evening and night shift workers reported close knit relations among staff (50%), however some also described how social groups or factions have formed that exclude non-members, which is counterproductive toward the development of community.

The distribution of themes and percentages of day vs evening/night workers with respect to fairness and reward congruence were also similar and can be viewed in Table 16. Value congruence is distinctive in one way, which is that only the evening/night workers communicated an incongruence with organizational values among staff (20%), as opposed to daytime staff who did not report any value incongruence.

Overall, this review of responses across participants supports the finding that the work characteristics of call center representatives do vary by workshift; however, they are also somewhat similar. This suggests the need for researchers to continue to tease apart the subtle differences with respect to important domains or facets of work contextual experiences to elucidate key factors that require further study. Another area that requires further exploration is the new context-specific survey items that augmented the AWS and in some cases improved the reliability of the instrument for this population. This is especially interesting given the finding that some of these items were also significantly correlated with workshift and burnout, therefore they may have merit for use in future studies that include areas of worklife. It should be noted, however, that the inclusion of these supplementary items in the AWS mean score computation did not result in any change with respect to testing of the study hypotheses.

Research Contributions and General Discussion

Although shiftwork has a long history of investigation into the consequences and causal mechanisms that underlie negative physical, mental and organizational outcomes, there are still

questions that need to be answered and nuances that need further illumination. The primary goal of this dissertation was to make a significant research contribution and investigation into the existence of workshift-embedded conditions that may be linked to burnout. A secondary goal was to provide insight into the mixed findings regarding shiftwork and its relationship to burnout as a potentially significant consequence of evening and night work. The shiftwork literature is vast, therefore a novel approach was chosen to achieve those goals. In the case of this dissertation, the researchers employed a cross-disciplinary perspective, mixed methods design, and a theoretical model that was based upon data obtained through years of application in the field. The confluence of these factors yielded interesting results that will hopefully provide shiftwork researchers with additional insight into which work contextual features matter across workshifts, so these variables can be included in future investigations, and be the subject of future interventions aimed at reducing the development of burnout.

Consistent with Hypothesis 1, the AWS domains were associated with burnout in the expected directions. Thus, perceptions of a mismatch across the domains were linked with higher exhaustion, and cynicism, but lower perceptions of professional efficacy. Even though there is already support for these findings, it is clear from the qualitative research conducted in both Study 1 and Study 2 that the mechanisms for the development of burnout still require further investigation. This is especially important due to the fact that a sizeable body of research supports the finding that burnout leads to important negative outcomes for individuals, organizations and stakeholders. For example, an examination of the theoretical models used to study burnout shows depth and breadth of psychosocial constructs that have demonstrated associations with burnout. These include the models of person-environment fit (Edwards and

Cooper, 1990), effort-reward imbalance (Siegrist, 1996) job demands-control-support (DCS; Karasek & Theorell, 1990), and more recently the job demand-resources paradigm (JD-R; Demerouti et al., 2001) which was inspired by the DCS. An examination of the DCS (Karasek & Theorell, 1979) reveals that *control* is not conceptualized as a simple construct, but is called *decision latitude* which is an aggregate construct composed of *decision authority* (workers' authority to make job-related decisions) and *skill discretion* (the extent of skill workers use on the job). However, control is also conceptualized in other studies as schedule control, managerial control, and in the case of these research findings, some participants used the term "attitude control." For example, one participant wrote, "I can control my interactions with clients and how I interact with co-workers because I am the one in control of my attitude." Another wrote, "You always have control on how you respond or react to callers whether good or bad." Although the participants are responding to a question about control, it could be argued that this really reflects their ability to reappraise a potential threat as non-stressful in accordance with the transactional theory of stress (Lazarus, 1991; Lazarus & Folkman, 1984). Or, this could reflect the application of a problem-focused coping strategy whereby the worker is careful about keeping interpersonal interactions positive to minimize the potential for conflict. Either way, these examples illustrate that there are several additional facets of control that could be added to this theoretical model, and the same could be said for more than just that particular area of worklife.

The results of qualitative analyses for both studies also provided critical information toward understanding the relationship between workshift and burnout as well as the Areas of Worklife. According to the results from the quantitative analysis, Hypotheses 2 and 3 were not

supported. Although a lack of power could have been responsible for this finding according to the post-hoc power analysis, it is still necessary to conduct additional research to determine if that was indeed the limiting factor. Furthermore, the fact that the interview and open-response survey data provided insight into the varied work experiences between call center representatives on different workshifts, demonstrates the value of a mixed methods approach to research.

Results from the qualitative analyses provided support for differences between work experiences for workers on day and evening/night shifts, both through the themes that manifested in each group in response to the questions, and also through the direct question in which call center representatives were asked whether their counterparts would respond the same way. The area of workload generated the highest frequency of responses that indicated support for the existence of different perceptions by workshift (49.3%), however control (20.9%), and community (17.9%) were not far behind. (See Tables 19-20 for frequencies of perceived differences between workshifts.) These perceptions do not necessarily constitute sufficient evidence that work experiences are indeed different by workshift, but to the extent that workers across shifts communicate during shift changes or off-work events, it is possible that they have an accurate understanding of how other workers view their experiences. The strongest support for different work experiences between shifts, however, is the themed content analysis of workers' perceptions regarding their own shifts. A direct comparison of their most prevalent, and detailed responses portrays a different work experience for day versus evening/night workers. Although the majority of workers acknowledge the higher call volume during the daytime, many also acknowledged that a qualitatively different type of call happens at night. The evening/night workers receive fewer calls, but the topics are often more crisis-oriented,

involve problem-solving due to a lack of alternative resources during those hours, and working alone can contribute to high stress situations when multiple calls come in all at once. Regarding perceptions of control, a significant portion of both workshifts reported varied degrees of control spanning from high (24%) to absolutely no control (45%). However, a portion of the daytime workers' responses included a discussion of control that pertains to taking breaks, monitoring their attitude during the workday or schedule control. This may reveal that a different operational definition of control is operating for day versus evening/night workers.

Mental Health Services Working Population

This study was focused on workers within organizations that offer mental health services. These organizations provide services that the general public desperately needs such as immediate crisis counseling and linkages to other organizations that may provide emergency financial assistance, shelter, disaster recovery etc. The continuous provision of this community service is therefore a priority for the sake of the public and often those most vulnerable through difficult life circumstances. Workers in this industry are known to be at risk for mental and physical stress outcomes due to the mentally demanding nature of this work, therefore it is especially important to identify as many contributing factors to these outcomes as possible so organizations can address them and potentially mitigate these negative outcomes. Not only is it imperative that workers in this industry are protected from these job-related stressors for the sake of their own health and well-being, but successful interventions would also likely lead to reduced turnover and absenteeism which presently is a pervasive problem throughout the mental health services industry.

Implications for Interventions

In a general sense, the study findings lend support to the continued investigation into the specific aspects of work contextual features that contribute to burnout, and their relationship to workshift. Although the AWS may not be sensitive enough to pick up on context-specific characteristics of work experiences, it is designed to function as a tool that is an essential component to a generalizable, stable theoretical model for detecting burnout and its antecedents. One of the main findings of this study is that the AWS can be used in conjunction with other methods (e.g., interviews, open-ended survey questions) to access additional data that are specific to the industry, or the workplace. Ultimately, both approaches may be necessary to facilitate meaningful contributions to shiftwork research through the use of empirically supported, generalizable instruments, while simultaneously gathering qualitative data that yields sufficiently detailed findings to facilitate the creation of relevant, concrete activities that organizations can implement to prevent burnout. In addition to research and practitioner linkages, studies that are designed to collect and analyze multi-level data will enrich our understanding of how these phenomena manifest in organizations that are riddled with hierarchical structures (Maslach et al., 2012). The continued use of the AWS and the MBI-GS in organizational assessments is also an important activity for aiding in our understanding with regard to the development of burnout over time, as well as the most critical areas of worklife to focus early detection efforts and subsequent interventions (Maslach & Leiter, 2008).

More specifically, the study results offer some guidance to researchers and practitioners regarding areas of worklife that may be especially meaningful to workers in this population. Even though the respondents, on average, did not exceed the score thresholds to indicate a

mismatch with the Areas of Worklife or burnout domains, their responses to the qualitative components describe ample opportunities for intervention. As discussed previously, varied perceptions of workload/control across and within workshifts suggest that it is possible for workers who are doing the same job, at the same organization, are having different work experiences.

Limitations and Future Directions

Despite the multi-method research design, there were limitations to this dissertation research. The most limiting factor in this research was the small study sample size. This is typically a challenge for any study of shiftworking populations because the evening and night shift workers are fewer in number; therefore, it is necessary to oversample so there is a sufficient number of participants in those shift categories to ensure adequate power for conducting statistical analyses and detecting effects. Researchers can have difficulty gaining access to workers on non-traditional shifts because of the odd hours they work, the irregularity of their work schedule, or the fact that they cannot take time off from work to participate (especially in cases where they are the only staff person on duty). A longer recruitment with rolling or ongoing participation would likely be a good way to address this issue in future research.

Secondly, although the study announcements were circulated to a wide audience of leaders in the crisis intervention industry, the leaders chose to involve their organizations and likewise their employees chose to participate. Therefore, it is possible that a self-selection bias would result in a sample with participants who are desperately seeking opportunities to provide either very positive or very negative feedback about their work experiences. Thus, the data actually represent the perceptions of workers who are on one extreme or another with respect to

any of the constructs measured in the instruments. Unfortunately, this is not an easy problem to avoid in field research since organizational leaders must be willing to enlist their organizations to participate, and they can only go so far to encourage employees who have no other agenda in completing the survey.

Lastly, the "healthy worker effect" may be operating in this context also potentially resulting in skewed data, due to the tendency for people who have encountered insurmountable issues at their jobs to turnover which leaves researchers with only the newer employees and those who have survived their work experiences for the long haul. Either way, the participants will only represent a subset of the working population, and the dataset will likely not contain any responses from workers who have been there long enough to provide meaningful feedback/insight, but who are still there at a time point when intervention may be possible.

Given the smaller sample size in this study for non-traditional workshifts, the continuation of this research should begin with renewed efforts to recruit participating organizations, and add participant data that will permit additional statistical analyses to be conducted for hypothesis testing. As mentioned earlier, studies that are designed to collect and analyze multi-level data are also desirable so researchers can continue to learn how these relationships develop over time, among workgroups, across departments and across organizations (Maslach et al., 2012). It is also necessary for shiftwork researchers to consider additional specialized occupations or industries when designing new studies. Although it is necessary to test theoretical models that are generalizable across industries and perhaps counties, there are opportunities to reach out and assist organizations in several fields who operating on a continuous basis without sufficient guidance for how to manage their human resources in a way

that minimizes the health and safety risks that can accompany shiftwork scheduling systems when they are not properly designed.

Finally, this research also demonstrated the utility of collecting both quantitative and qualitative data, especially when it is so difficult to access working populations and engage then as participants in academic research. It is highly probable that returning to the organizational leaders who participated in this research would not have been able to participate in multiple studies, or in a research effort that required a longer time commitment. Therefore, the simultaneous collection of quantitative and qualitative data via the online survey was extremely beneficial.

Conclusion

Despite the long-standing history of research into shiftwork, there are still many unanswered questions about the psychosocial work context and burnout with respect to whether they vary within an organization by workshift. The results of this dissertation research suggest there is a need for further investigation, both for the mental health services industry and beyond. Also, researchers should consider utilizing a mixed methods approach since the qualitative data was critical, not only in identifying specifically how the work context differed between workshifts, but also because those differences were not detected by the instruments alone.

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Tables

Table 1.

Measures Used to Assess Psychosocial Work Context (Davies-Schrils, 2011).

[a]**Areas of Worklife Scale (AWS)**	**Measures**	**Example items**
Workload	[b]Psychological Job Demands	My job requires working very fast.
	[b]Physical Job Demands	My work requires rapid and continuous physical activity.
[e]Control	[b]Decision Authority	My job allows me to make a lot of decision on my own.
	Control over Schedule	I have control over my work schedule.
Community	[b]Supervisor Support	My supervisor is helpful in getting the job done.
	[b]Coworker Support	The people I work with take a personal interest in me.
	[c]Civility Norms	In my department, I would be taken seriously if I complained about disrespectful treatment.
Fairness	[d]Procedural Justice	Job decisions are made in an unbiased manner.

Note: Two of the AWS domains were not represented in this study: reward, and values.
[a]Areas of Work-life Scale (AWS); Leiter & Maslach, (2000). [b]Job Content Questionnaire (JCQ; Karasek et al., (1998). [c]Civility Norm Questionnaire – Brief; CNQ-B; Walsh et al., (2008).[d]Perceptions of Procedural Justice; Niehoff & Moorman, (1993). [e]Decision Authority was used as a measure of control, but did not include Skill Discretion.

Table 2.

Demographic Variable Statistics Overall and by Organization – Study 1.

	Overall (*N*=9)		Company A (*N*=6)		Company B (*N*=3)	
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*
Tenure (Job)	3.9	3.0	3.7	3.3	4.3	3.1
Age	32.0	8.4	31.3	9.7	33.3	6.5
	% (n)		*% (n)*		*% (n)*	
Gender (% Female)	66.7 (6)		66.7 (6)		66.7 (6)	
Workshift (% Day)	66.7 (6)		66.7 (6)		66.7 (6)	
Workshift (% Evening/Night)	33.3 (6)		33.3 (2)		33.3 (1)	
Workshift (% Irregular)	0.00		0.00		0.00	
Full-time/Part-time (% FT)	100.0 (6)		100.0 (6)		100.0 (6)	
Remote (% Yes)	0.00		0.00		0.00	

N = 9

Table 3.

High-Level Themes for Interview Responses About Psychosocial Work Context – Study 1.

Areas of Worklife Scale Domains	Response Themes
Workload	Call topics are emotional/personal Caller wait times must be minimal Limited community resources for referrals
Control	Collection of specific demographic information Physical work environment Limited community resources for referrals
Community	Giving/receiving help to coworkers Physical work environment Office politics Caller wait times must be minimal
Reward	Non-competitive pay Communal food is most common reward Communication breakdown
Fairness	Office politics Collection of specific demographic information Communication breakdown
Values	Helping people is a core value Easy to lose perspective

Note: Themes shown encompassed >30% of responses; *AWS (*Leiter & Maslach, 2000).

Table 4.

Themed Responses to Interview Questions About Psychosocial Work Context – Study 1.

Areas of Worklife	High-Level Themes	Day (*n*=6)	Night (*n*=3)	Summary Responses
Workload	Call topics are emotional / personal	33%	100%	• Assessing crisis calls for lethality
		33%	100%	• Topics of calls can be emotionally draining
	Caller wait times must be minimal	33%	67%	• Callers queuing up during long calls, crisis callers on hold
		50%	100%	• Answering calls quickly to get to the callers who are on hold
	Few community resources	83%	33%	• Locating resources to help callers is time consuming
		0	100%	• Locating resources during evening/night nearly impossible
Control	Collection of demographic data	33%	100%	• Sponsor needs for demographic data, can be challenging
	Physical work environment	67%	0	• Limited desk space offers limited control over work area
		33%	100%	• Difficult to obtain demographic data on crisis calls
	Few community resources	17%	100%	• Less ability to reach out to community resources at night
Community	Help to/from coworkers	67%	33%	• Being able to rely on coworkers is helpful on a difficult call
	Physical work environment	83%	0	• Coworkers can be loud and distracting
	Office politics	33%	33%	• Office politics can be stressful
	Caller wait times must be minimal	67%	100%	• Office is quiet but it is challenging when calls back up
Reward	Non-competitive pay	83%	33%	• Pay is not competitive with other call centers in for-profits
	Communal food as reward	67%	0	• Rewards consist of communal food but nothing else
		50%	67%	• None, maybe communal food. "Rewards? What rewards?"
	Communication breakdown	17%	100%	• Unaware of opportunities for rewards
Fairness	Office politics	83%	67%	• Office politics "I'm not part of the in-crowd."
	Collection of demographic data	83%	0	• Sponsors/management change procedures with little notice
	Communication breakdown	33%	67%	• New jobs, news, not passed on "They don't tell us anything."
Values	Helping people is a core value	83%	100%	• Organizational values "I'm here to help people."
		50%	33%	• Sometimes it feels like nobody cares anymore
	Easy to lose perspective	33%	67%	• Callers need help, and not everyone can work this shift

Note: Quotes shown in "italics." Themes shown were topics for >30%. *AWS (*Leiter & Maslach, 2000). $N = 9$

Table 5.
Sample and Supplemental Items Used to Assess Psychosocial Work Context – Study 2.

Areas of Worklife Scale (AWS)	Item Type	Example items
Workload	Scale Item	I do not have time to do the work that must be done.
	Added Item(s)	(1) I am comfortable knowing that calls will be answered as soon as possible. (2) I start my shift worrying about whether I will be able to answer enough calls.
Control	Scale Item	I have control over how I do my work.
	Added Item(s)	(1) I can influence my work environment.
Community	Scale Item	Members of my work group cooperate with one another.
	Added Item(s)	(1) I feel as though I am part of a community. (2) My work group and I can communicate when the need arises. (3) I feel disconnected from my coworkers.
Reward	Scale Item	My work is appreciated.
	Added Item(s)	(1) I am not rewarded enough for my work. (2) There are opportunities to earn rewards.
Fairness	Scale Item	Resources are allocated fairly here.
	Added Item(s)	(1) Opportunities are offered in a fair manner here.
Values	Scale Item	My values and the Organization's values are alike.
	Added Item(s)	(1) The organization has values that are clearly stated. (2) The values of the organization are important to me.

Note: Scale items are an approved sample of the AWS (Leiter & Maslach, 2011) unless otherwise noted.
**Source:* Civility Norm Questionnaire - Brief (CNQ-B, Walsh et al., 2008.)

Table 6.

Demographic Variable Descriptive Statistics Overall and by Organization – Study 2.

	Overall (*N*=78)		Company A (*N*=31)		Company B (*N*=22)		Company C (*N*=25)	
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Tenure (Job)	3.1	6.0	1.7	3.0	5.6	10.1	2.7	3.0
Age	40.7	15.2	37.2	15.3	47.4	13.0	39.2	15.6
	% (n)		*% (n)*		*% (n)*		*% (n)*	
Gender (% Female)	82.1 (64)		77.4 (24)		90.9 (20)		80.0 (20)	
Workshift								
% Day	69.2 (54)		74.2 (23)		54.5 (12)		76.0 (19)	
% Evening/Night	16.7 (13)		22.6 (7)		13.6 (3)		12.0 (3)	
% Irregular	14.1 (11)		3.2 (1)		31.8 (7)		12.0 (3)	
Shift Differential (% Yes)	15.4 (12)		25.8 (8)		4.5 (1)		12.0 (3)	
Full-Time/Part-Time (% FT)	61.5 (48)		80.6 (25)		36.4 (8)		60.0 (15)	
Remote (% Yes)	28.2 (22)		0.0 (0)		63.6 (14)		4.0 (1)	
Race								
% Caucasian	47.4 (37)		51.6 (16)		63.6 (14)		28.0 (7)	
% African American	26.9 (21)		25.8 (8)		27.3 (6)		28.0 (7)	
% Hispanic	15.4 (12)		9.7 (3)		0 (0)		36.0 (9)	
Education								
% Some College	94.4 (72)		16.1 (5)		18.2 (4)		12.0 (3)	
% College Degree (4 yrs)	50.0 (39)		51.6 (16)		50.0 (11)		48.0 (12)	
% Master's Degree	19.2 (15)		16.1 (5)		27.3 (6)		16.0 (4)	
% Married/Partnered	33.3 (26)		35.5 (11)		40.9 (9)		24.0 (6)	
% with Children	47.4 (35)		22.6 (7)		63.6 (13)		60.0 (15)	

N = 78

Table 7.

Scale Reliabilities for Psychosocial Work Context and Burnout – Study 2.

	Normative Sample	Original Measure	New Items Added
Measures	α	α	α
Areas of Worklife			
[a] Workload	.67	.75	.76
[b] Control	.83	.78	.82
[c] Community	.80	.83	.87
[d] Reward	.78	.85	.85
[e] Fairness	.80	.84	.86
[f] Values	.73	.80	.87
Burnout			
[g] Exhaustion	.90	.92	N/A
[h] Cynicism	.79	.84	N/A
[i] Professional Efficacy	.71	.85	N/A

Note: Normative data sources are: [a-f]Leiter, M. P. & Maslach, C. (2011). *Areas of Worklife Survey Manual (5th ed)*. Mind Garden, Inc., California; [g-i]Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. Journal of Occupational Behavior, 2, 99–113. All versions of the MBI are now published online by Mind Garden, mindgarden.com

Table 8.
MBI-GS Principal Component Factor Analyses – Study 2.

Items	Professional Efficacy	Cynicism	Exhaustion
Exhaustion1			**.97**
Exhaustion2			**.82**
Exhaustion3			**.75**
Exhaustion4			**.78**
Exhaustion5			**.81**
Cynicism1		.26	**.52**
Cynicism2		.31	**.44**
Cynicism3	.11		.40
Cynicism4		**.55**	**.45**
Cynicism5		**.74**	.31
Professional Efficacy1	**.62**		
Professional Efficacy2	**.62**		
Professional Efficacy3	**.88**		
Professional Efficacy4	**.64**		
Professional Efficacy5	**.58**		
Professional Efficacy6	**.73**		

Note: Factor loadings >.10 are shown; factor loadings >.40 are in boldface; MBI-GS (Maslach et al., 1996).

Table 9.

AWS Principal Component Factor Analyses – Study 2.

Items	Values	Fairness	Reward	Community	Control	Workload
Workload1						**.70**
Work intensely						.30
Workload3			.18			**.71**
Enough time						**.79**
Workload5				.35		.24
Control over work					**.49**	.28
Control2					**.57**	
Control3					**.75**	
Influence decisions		.18	.35		**.45**	
Community1		.26		.26	.28	
Supportive			.34	**.48**		
Community3				**.89**		
Community4	.21	.23		**.52**		
Don't feel close		**.81**		.14		-.14
Receive recognition			**.81**			
Reward2			**.78**			
Reward3			**.55**			.26
Not recognized			**.50**			.28
Fairness1	.18	.27			.36	
Fairness2	.22	.20			**.45**	
Fairness3			**.45**		.23	
Fairness4	.40	-.17	.25	.30	.27	-.24
Fairness5	.22	-.14	.38	.24	.27	-.25
Fairness6			**.54**		.37	-.34
Values1	**.91**	.22				
Values2	**.42**					
Values3	**.69**				.23	
Values4	**.71**			.25		

Note: Factor loadings >.10 are shown; factor loadings >.40 are in boldface; AWS (Leiter & Maslach, 2000, 2011).

Table 10.

Scale Means for Normative Samples, Overall Sample and by Organization – Study 2.

	Norms		Overall (*N*=78)		Company A (*N*=31)		Company B (*N*=22)		Company C (*N*=25)	
Measures	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Areas of Worklife										
Workload	[a]3.05	(1.10)	3.41	(.76)	3.23	(.78)	3.44	(.84)	3.59	(.64)
Control	[b]3.30	(.85)	3.43	(.89)	3.34	(.97)	3.64	(.66)	3.36	(.97)
Community	[c]3.45	(.87)	3.70	(.74)	3.74	(.69)	3.57	(.91)	3.75	(.65)
Reward	[d]3.26	(.92)	3.37	(.84)	3.55	(.73)	3.08	(1.06)	3.42	(.69)
Fairness	[e]2.63	(.89)	3.25	(.85)	3.48	(.83)	3.36	(.69)	2.89	(.90)
Values	[f]3.21	(.80)	3.85	(.77)	3.86	(.74)	3.85	(.75)	3.86	(.84)
Burnout										
Exhaustion	[g]2.54	(1.53)	2.56	(1.60)	2.38	(1.44)	2.50	(1.73)	2.84	(1.69)
Cynicism	[h]1.88	(1.44)	1.37	(1.36)	.93	(.95)	1.49	(1.38)	1.81	(1.62)
Professional Efficacy	[i]4.29	(1.01)	4.42	(1.00)	4.70	(.70)	4.52	(.96)	3.99	(1.21)

Note: Normative data sources are: [a-f]Leiter, M. P. & Maslach, C. (2011). *Areas of Worklife Survey Manual (5th ed)*. Mind Garden, Inc., California; [g-i]Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. Journal of Occupational Behavior, 2, 99–113. All versions of the MBI are now published online by Mind Garden, mindgarden.com.

N = 78

Table 11.

Study Variable Descriptive Statistics, Correlations and Reliabilities – Study 2

Measure	Norms M (SD)	M	SD	1	2	3	4	5	6	7	8	9
Areas of Worklife												
1. Workload	[a]3.05 (1.10)	3.41	0.76	*0.76*								
2. Control	[b]3.30 (.85)	3.43	0.89	.36**	*0.82*							
3. Community	[c]3.45 (.87)	3.70	0.74	.37**	.49**	*0.85*						
4. Reward	[d]3.26 (.92)	3.37	0.84	.51**	.50**	.67**	*0.87*					
5. Fairness	[e]2.63 (.89)	3.25	0.85	.25*	.60**	.63*	.61**	*0.86*				
6. Values	[f]3.21 (.80)	3.85	0.77	.31**	.48**	.41**	.48**	.56**	*0.87*			
Burnout												
7. Exhaustion	[g]2.54 (1.53)	2.56	1.60	-.40**	-.51**	-.32**	-.46**	-.49**	-.46**	*0.92*		
8. Cynicism	[h]1.88 (1.44)	1.37	1.36	-.37**	-.49**	-.45**	-.60**	-.62**	-.46**	.75**	*0.84*	
9. Professional Efficacy	[i]4.29 (1.01)	4.42	1.00	.16	.25*	.15	.29**	.36**	.48**	-.37**	-.46**	*0.85*

Note: α for each measure is indicated on diagonal. $N = 78$

Normative data sources are: Leiter, M. P. & Maslach, C. (2011). *Areas of Worklife Survey Manual (5th ed).* Mind Garden, Inc., California; Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. Journal of Occupational Behavior, 2, 99–113. All versions of the MBI are now published online by Mind Garden, mindgarden.com.

* Significant at the .05 level (two-tailed). **Significant at the .01 level (two-tailed).

Table 12.
Regression of Burnout (Exhaustion, Cynicism and Professional Efficacy) on Psychosocial Work Context (AWS Domains)

Final Model	Exhaustion				Cynicism				Professional Efficacy			
	F	Overall R^2	Adj. R^2	ΔR^2 (%)	*F*	Overall R^2	Adj. R^2	ΔR^2 (%)	*F*	Overall R^2	Adj. R^2	ΔR^2 (%)
Step 1 Control Variable	.59	.02	.01	.01	3.23*	.08*	.06*	08*	3.98*	.10*	.07*	.10*
	Betas (β)		t		Betas (β)		t		Betas (β)		t	
Organization	.14		1.06		.31*		1.54*		-.34**		-2.76**	
	F	Overall R^2	Adj. R^2	ΔR^2 (%)	*F*	Overall R^2	Adj. R^2	ΔR^2 (%)	*F*	Overall R^2	Adj. R^2	ΔR^2 (%)
Step 2 AWS Variables	9.22***	.39***	.35***	.37***	16.71***	.48***	.45***	.40***	11.99***	.33***	.30***	.23***
	Betas (β)		t		Betas (β)		t		Betas (β)		t	
[a] Workload	-0.25*		-2.45*		-.18		-1.78		.08		.43	
[b] Control	-.31*		-2.82**		-.18		-1.61		.01		.91	
[c] Community	.04		.31		.04		.73		-.04		.71	
[d] Reward	-.09		-.68		-.37**		-3.23**		.08		.47	
[e] Fairness	-.12		-.90		-.35**		-2.95**		-.01		.93	
[f] Values	-.24*		-2.21*		-.14		-1.29		.48***		5.04***	

[abcdef]Final Model, Step 2 df = 8, 69. N = 78. Standardized coefficients reported.

† $p < .10$., two-tailed. * $p < .05$., two-tailed. ** $p < .01$., two-tailed. *** $p < .001$., two-tailed.

Table 13.

Regression of Burnout on Statistical Controls and Workshift

Final Model	Areas of Worklife					
	[a]Workload	[b]Control	[c]Community	[d]Reward	[e]Fairness	[f]Values
Step 1: Control Variable						
Organization						
F	1.62	.79	.44	2.18*	3.78*	.01
Overall R^2	.04	.02	.01	.06*	.09*	.01
Adjusted R^2	.02	.01	.02	.03*	.07*	-.03
ΔR^2	.04	.02	.01	.06*	.09*	.01
(β)	.17	.07	.05	-.16*	-.16*	-.01
Step 2: Predictor Variables						
Workshift (Day; Evening/Night; Irregular)						
F	1.92	.95	.34	2.03	2.15	.04
Overall R^2	.10	.05	.02	.10	.11	.01
Adjusted R^2	.05	.03	.04	.05	.06	-.05
ΔR^2	.05	.03	.01	.05	.01	.01
(β)	.12	.12	.05	.15	.07	.03

[abcdef]Step 1 df = 2, 76; Step 2 df = 2, 74. $N = 78$. Standardized coefficients reported.

† p < .10., two-tailed. * p < .05., two-tailed. ** p < .01., two-tailed. *** p < .001., two-tailed

Table 14.

Regression of Burnout on Statistical Controls and Workshift

Final Model	Burnout		
	[a]Exhaustion	[b]Cynicism	[c]Professional Efficacy
Step 1: Control Variable			
Organization			
F	.59	3.23*	3.98*
Overall R^2	.02	.08*	.10*
Adjusted R^2	-.01	.06*	.07*
ΔR^2	.02	.08*	.10*
(β)	.17	-.31*	.34*
Step 2: Predictor Variables			
Workshift (Day; Evening/Night; Irregular)			
F	.62	2.27	2.26
Overall R^2	.03	.08	.10
Adjusted R^2	-.02	.06	.07
ΔR^2	.01	.01	.01
(β)	-.98	.64	-.27

[abc]Step 1 df = 2, 76; Step 2 df = 3, 73. N = 78. Standardized coefficients reported.

† p < .10., two-tailed. * p < .05., two-tailed. ** p < .01., two-tailed. *** p < .001., two-tailed.

Table 15.
Regression of Exhaustion on Workshift & Psychosocial Work Context (AWS Domains)

Final Model	Exhaustion			
Step 1	*F*	Overall R^2	Adj. R^2	ΔR^2 (%)
Control Variable	.59	.02	.01	.01
	Betas (β)		t	
Organization	.14		1.06	
Step 2	*F*	Overall R^2	Adj. R^2	ΔR^2 (%)
	.66	.04	.02	.01
	Betas (β)		t	
Workshift	-.40		-.63	
	F	Overall R^2	Adj. R^2	ΔR^2 (%)
Step 3	4.78***	.42***	.33***	.38***
AWS Variables	Betas (β)		t	
[a] Workload	-.26		-.79	
[b] Control	-.51***		-3.40***	
[c] Community	.15		.90	
[d] Reward	-.14		-.88	
[e] Fairness	-.05		-.24	
[f] Values	-.01		-.05	
	F	Overall R^2	Adj. R^2	ΔR^2 (%)
Step 4	3.47	.58	.41	.17
Interaction Terms	Betas (β)		t	
[g] Workload & Workshift	-.70		-.72	
[h] Control & Workshift	.85		1.35	
[i] Community & Workshift	.04		.31	
[j] Reward & Workshift	.40		.68	
[k] Fairness & Workshift	-1.12		-1.09	
[l] Values & Workshift	-.24		-2.21	

[abcdefghijkl]Final Model, Step 4 df = 12, 55. $N = 78$. Standardized coefficients reported.

† $p < .10$., two-tailed. * $p < .05$., two-tailed. ** $p < .01$., two tailed. *** $p < .001$., two-tailed.

Table 16.
Regression of Cynicism on Workshift & Psychosocial Work Context (AWS Domains)

Final Model	Cynicism			
Step 1	*F*	Overall R^2	Adj. R^2	ΔR^2 (%)
Control Variable	3.23*	.08*	.06*	.08*
	Betas (β)		t	
Organization	.18		1.42	
Step 2	*F*	Overall R^2	Adj. R^2	ΔR^2 (%)
	2.26	.11	.06	.03
	Betas (β)		t	
Workshift	-.35		-.54	
	F	Overall R^2	Adj. R^2	ΔR^2 (%)
Step 3	7.75***	.54***	.47***	.43***
AWS Variables	Betas (β)		t	
[a] Workload	.43		1.43	
[b] Control	-.25		-1.84	
[c] Community	-.05		-.34	
[d] Reward	-.18		-1.18	
[e] Fairness	-.35		-1.96	
[f] Values	.18		1.19	
	F	Overall R^2	Adj. R^2	ΔR^2 (%)
Step 4	4.51***	.64	.50	.11
Interaction Terms	Betas (β)		t	
[g] Workload & Workshift	-1.20		-1.45	
[h] Control & Workshift	.20		.32	
[i] Community & Workshift	.04		1.21	
[j] Reward & Workshift	1.29		.08	
[k] Fairness & Workshift	.30		.45	
[l] Values & Workshift	-1.34		-1.71	

[abcdefghijkl] Final Model, Step 4 df = 12, 55. N = 78. Standardized coefficients reported.

† $p < .10$., two-tailed. * $p < .05$., two-tailed. ** $p < .01$., two tailed. *** $p < .001$., two-tailed.

Table 17.
Regression of Professional Efficacy on Workshift & Psychosocial Work Context (AWS Domains)

Final Model	Professional Efficacy			
Step 1	*F*	Overall R^2	Adj. R^2	ΔR^2 (%)
Control Variable	3.67*	.10	.07	.10
	Betas (β)		t	
Organization	-.14		-1.06	
Step 2	*F*	Overall R^2	Adj. R^2	ΔR^2 (%)
	2.01	.10	.05	.01
	Betas (β)		t	
Workshift	.33		.46	
	F	Overall R^2	Adj. R^2	ΔR^2 (%)
Step 3	3.55***	.35***	.32***	.17***
AWS Variables	Betas (β)		t	
[a] Workload	-.59		-1.66	
[b] Control	.13		.79	
[c] Community	.01		.03	
[d] Reward	-.06		-.35	
[e] Fairness	.20		.97	
[f] Values	.10		.56	
	F	Overall R^2	Adj. R^2	ΔR^2 (%)
Step 4	2.63**	.51	.32	.17
Interaction Terms	Betas (β)		t	
[g] Workload & Workshift	.70		1.03	
[h] Control & Workshift	-.61		-.92	
[i] Community & Workshift	-1.04		-1.31	
[j] Reward & Workshift	1.09		1.68	
[k] Fairness & Workshift	-.25		-.30	
[l] Values & Workshift	1.04		1.21	

[abcdefghijkl]Final Model, Step 4 df = 12, 55. N = 78. Standardized coefficients reported.

† $p < .10$., two-tailed. * $p < .05$., two-tailed. ** $p < .01$., two tailed. *** $p < .001$., two-tailed.

Table 18.
Themed Responses to Open-ended Questions About Psychosocial Work Context on Day Shift – Study 2.

Areas of Worklife	High-Level Themes	Day Worker Perceptions		Evening / Night Worker Perceptions	
Workload	Level of Workload Types of calls Workload-Related Misc	• Moderate to Heavy • High call volume – long waits • Providing referrals, advocating • High-pressure, rudeness at work • No response	75% 60% 23% 6% 18%	100% 100% 100% 31% 38%	• Heavier than night • Higher call volume • Fewer crisis calls • Easier to find open resources • Don't know
Control	Level of Control Other Types of Control	• High control • Little to no control • Control over attitude, breaks • Schedule control • No response	25% 30% 6% 6% 20%	15% 33% 52%	• Little to no control • Same as evening / night shift • No response
Community	Office politics Friendly and helpful	• Office politics, negative culture • Friendly, help each other • No response / don't know	20% 36% 33%	33% 46%	• Same, close community • No response / don't know
Reward	Recognition, tangible rewards Uncertainty about rewards	• Food, recognition, certificates • Monetary, time off • No rewards • No response / don't know	30% 16% 17% 37%	10% 60% 10% 20%	• Food • Same as evening / night shift • Volume-based - unfair • No response / don't know
Fairness	Office politics, favoritism Rewards, demands	• Office politics, favoritism • Fair, to very fair • No response / don't know	16% 32% 30%	50% 50%	• Same as evening / night shift • Don't know
Values	Helping people - core value	• Helping others • Same values as mine • No response / don't know	17% 47% 36%	10% 40% 50%	• Different than evening / night shift • Same as evening / night shift • No response / don't know

Note: Some category totals may add to more than 100% because participant responses may cover multiple topics and be tagged with more than one code.

Table 19.

Themed Responses to Open-ended Questions About Psychosocial Work Context on Evening / Night Shift – Study 2.

Areas of Worklife	High-Level Themes	Day Worker Perceptions		Evening / Night Worker Perceptions	
Workload	Level of Workload Types of calls Workload-Related Misc	• Busy due to single-staffing • Slower than day shift • Less rudeness, no managers • Different call types • No response / don't know	51% 11% 6% 26% 38%	100% 60% 100% 30% 40%	• Heavier on day shift • Heavy to moderate workload • Crisis calls more frequent • Different call types • Don't know
Control	Level of Control Other Types of Control	• High control • Little to no control • Same as day shift • No response / don't know	17% 17% 20% 45%	23% 63% 4% 10%	• High control • Little to no control • Control over handling calls • No response
Community	Friendly and helpful	• Same as day shift • Feeling left out, less community • No response / don't know	21% 16% 47%	50% 30% 10%	• Close-knit • Clicks/factions with PT staff • Don't know
Reward	Recognition, tangible rewards Uncertainty about rewards	• Same as day shift • Not able to qualify • No response / don't know	36% 14% 52%	80% 10% 10%	• Food, recognition, bonus • None • No response / don't know
Fairness	Rewards, demands	• Same as day shift • Lack of perspective regarding day shift work • No response / don't know	20% 10% 50%	8% 45% 47%	• Not fair • Fair, very fair • Don't know
Values	Helping people - core value	• Different values than day shift • Same values as day shift • No response / don't know	5% 19% 77%	20% 60% 20%	• Not the same values • The same values / great • No response / don't know

Note: Some category totals may add to more than 100% because participant responses may cover multiple topics and be tagged with more than one code.

Table 20.

Themed Responses to Open-ended Questions About Psychosocial Work Context on Workers' Respective Shifts – Study 2.

Areas of Worklife	High-Level Themes	Day Worker Perceptions		Evening / Night Worker Perceptions	
Workload	Level of Workload Types of calls Workload-Related Misc	• Moderate to Heavy • High call volume – long waits • Providing referrals, advocating • High-pressure, rudeness at work • No response	75% 60% 23% 6% 18%	100% 60% 100% 30% 40%	• Heavier on day shift • Heavy to moderate workload • Crisis calls more frequent • Different call types • Don't know
Control	Level of Control Other Types of Control	• High control • Little to no control • Control over attitude, breaks • Schedule control • No response	25% 30% 6% 6% 20%	23% 63% 4% 10%	• High control • Little to no control • Control over handling calls • No response
Community	Office politics Friendly and helpful	• Office politics, negative culture • Friendly, help each other • No response / don't know	20% 36% 33%	50% 30% 10%	• Close-knit • Clicks/factions with PT staff • Don't know
Reward	Recognition, tangible rewards Uncertainty about rewards	• Food, recognition, certificates • Monetary, time off • No rewards • No response / don't know	30% 16% 17% 37%	80% 10% 10%	• Food, recognition, bonus • None • No response / don't know
Fairness	Office politics, favoritism Rewards, demands	• Office politics, favoritism • Fair, to very fair • No response / don't know	16% 32% 30%	8% 50% 42%	• Not fair • Fair, very fair • Don't know
Values	Helping people - core value	• Helping others • Same values as mine • No response / don't know	17% 47% 36%	20% 60% 20%	• Not the same values • The same values / great • No response / don't know

Note: Some category totals may add to more than 100% because participant responses may cover multiple topics and be tagged with more than one code.

Table 21.

Schedule-Related Variable Descriptive Statistics Overall and by Organization – Study 2.

	Overall (*N*=78)	Company A (*N*=31)	Company B (*N*=22)	Company C (*N*=25)
Variables	*% (n)*	*% (n)*	*% (n)*	*% (n)*
% Day	69.2 (54)	74.2 (23)	54.5 (12)	76.0 (19)
% Evening/Night	16.7 (13)	22.6 (7)	13.6 (3)	12.0 (3)
% Irregular	14.1 (11)	3.2 (1)	31.8 (7)	12.0 (3)
Worked Other Shifts (% Yes)	52.6 (41)	61.3 (19)	45.5 (10)	48.0 (12)
Preferred Schedule (% Yes)	78.2 (61)	74.2 (23)	86.4 (19)	76.0 (19)
Monday – Friday (% Yes)	55.1 (43)	71.0 (22)	27.3 (6)	60.0 (15)
Schedule Control (% Yes)	32.1 (25)	19.4 (6)	40.9 (9)	40.0 (10)
Shift Differential (% Yes)	15.4 (12)	25.8 (8)	4.5 (1)	12.0 (3)
Remote (% Yes)	28.2 (22)	0.0 (0)	95.5 (21)	4.0 (1)

N = 78

Table 22.

Frequencies for Open-Ended Responses About Perceived Differences between Workshifts, Overall and by Organization – Study 2.

	Overall (*N*=67)	Company A (*N*=30)	Company B (*N*=15)	Company C (*N*=22)
	% (n)	*% (n)*	*% (n)*	*% (n)*
Workshift				
% Day	69.2 (54)	74.2 (23)	54.5 (12)	76.0 (19)
% Evening/Night	16.7 (13)	22.6 (7)	13.6 (3)	12.0 (3)
Areas of Worklife	*% (n)*	*% (n)*	*% (n)*	*% (n)*
Workload				
% Same	17.9 (12)	23.3 (7)	20.0 (3)	9.1 (2)
% Different	49.3 (33)	43.3 (13)	53.3 (8)	54.5 (12)
% Don't Know / No Response	32.8 (22)	33.3 (10)	26.7 (4)	36.4 (8)
Control				
% Same	25.4 (17)	16.7 (5)	46.7 (7)	22.7 (5)
% Different	20.9 (14)	20.0 (6)	13.3 (2)	27.3 (6)
% Don't Know / No Response	53.7 (36)	63.3 (19)	40.0 (6)	50.0 (11)
Community				
% Same	28.4 (19)	23.3 (7)	33.3 (5)	31.8 (7)
% Different	17.9 (12)	16.7 (5)	20.0 (3)	22.7 (5)
% Don't Know / No Response	53.7 (36)	60.0 (18)	46.7 (7)	45.5 (10)
Rewards				
% Same	41.8 (28)	43.3 (13)	40.0 (6)	40.9 (9)
% Different	10.4 (7)	6.7 (2)	6.7 (1)	18.2 (4)
% Don't Know / No Response	47.8 (32)	50.0 (15)	53.3 (8)	40.9 (9)
Fairness				
% Same	28.4 (19)	36.7 (11)	26.7 (4)	18.2 (4)
% Different	7.5 (5)	3.3 (1)	6.7 (1)	13.6 (3)
% Don't Know / No Response	64.2 (43)	60.0 (18)	66.7 (10)	68.2 (15)
Values				
% Same	23.9 (16)	20.0 (6)	40.0 (6)	13.6 (3)
% Different	6.0 (4)	3.3 (1)	0 (0)	18.2 (4)
% Don't Know / No Response	70.1 (47)	76.7 (23)	60.0 (9)	68.2 (15)

Note: Participants who identified their workshift as irregular did not receive the open-ended items in the survey. $N = 67$

Table 23.

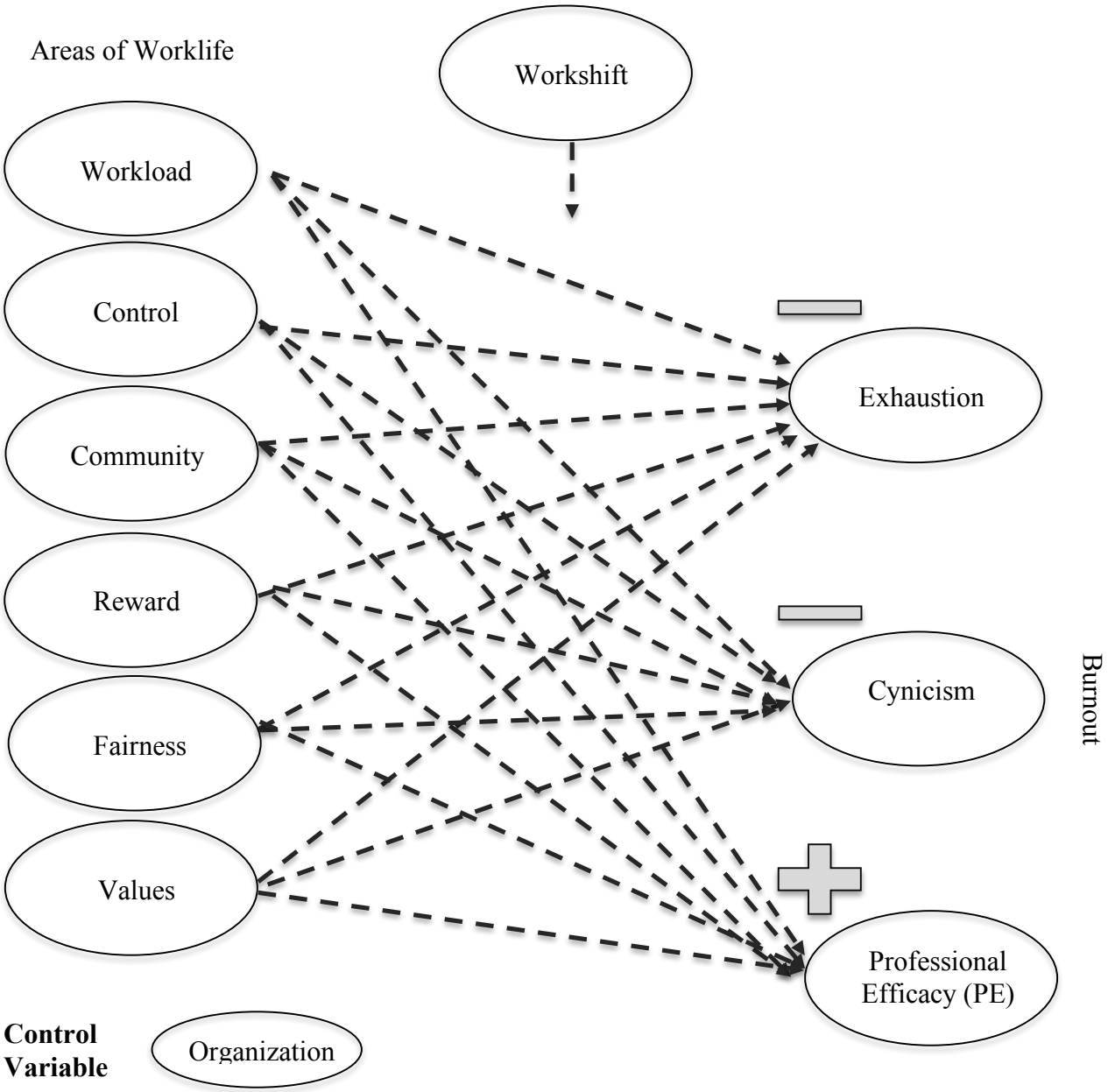
Frequencies for Open-Ended Responses About Perceived Differences between Workshifts, Overall and by Shift – Study 2.

	Overall (*N*=67)	First Shift (*N*=54)	Evening/Night (*N*=13)
	% (n)	*% (n)*	*% (n)*
Shift Differential (% Yes)	16.4 (11)	14.8 (8)	23.1 (3)
Remote (% Yes)	22.4 (15)	22.2 (12)	23.1 (3)
Worked Other Shifts (% Yes)	61.2 (41)	57.4 (31)	76.9 (10)
Schedule Control (% Yes)	28.4 (19)	31.5 (17)	15.4 (2)
Areas of Worklife	*% (n)*	*% (n)*	*% (n)*
Workload			
% Same	17.9 (12)	20.4 (11)	15.4 (2)
% Different	49.3 (33)	48.1 (26)	46.2 (6)
% Don't Know / No Response	32.8 (22)	31.5 (17)	38.5 (5)
Control			
% Same	25.4 (17)	25.9 (14)	23.1 (3)
% Different	20.9 (14)	22.2 (12)	15.4 (2)
% Don't Know / No Response	53.7 (36)	51.9 (28)	61.5 (8)
Community			
% Same	28.4 (19)	24.1 (13)	46.2 (6)
% Different	17.9 (12)	16.7 (9)	23.1 (3)
% Don't Know / No Response	53.7 (36)	59.3 (32)	30.8 (4)
Rewards			
% Same	41.8 (28)	38.9 (21)	53.8 (7)
% Different	10.4 (7)	9.3 (5)	15.4 (2)
% Don't Know / No Response	47.8 (32)	51.9 (28)	30.8 (4)
Fairness			
% Same	28.4 (19)	24.1 (13)	46.2 (6)
% Different	7.5 (5)	9.3 (5)	0 (0)
% Don't Know / No Response	64.2 (43)	66.7 (36)	53.8 (7)
Values			
% Same	23.9 (16)	20.4 (11)	38.5 (5)
% Different	6.0 (4)	5.6 (3)	7.7 (1)
% Don't Know / No Response	70.1 (47)	74.1 (40)	53.8 (7)

Note: Participants who identified their workshift as irregular did not participate in the open-ended responses. $N = 67$

Figures

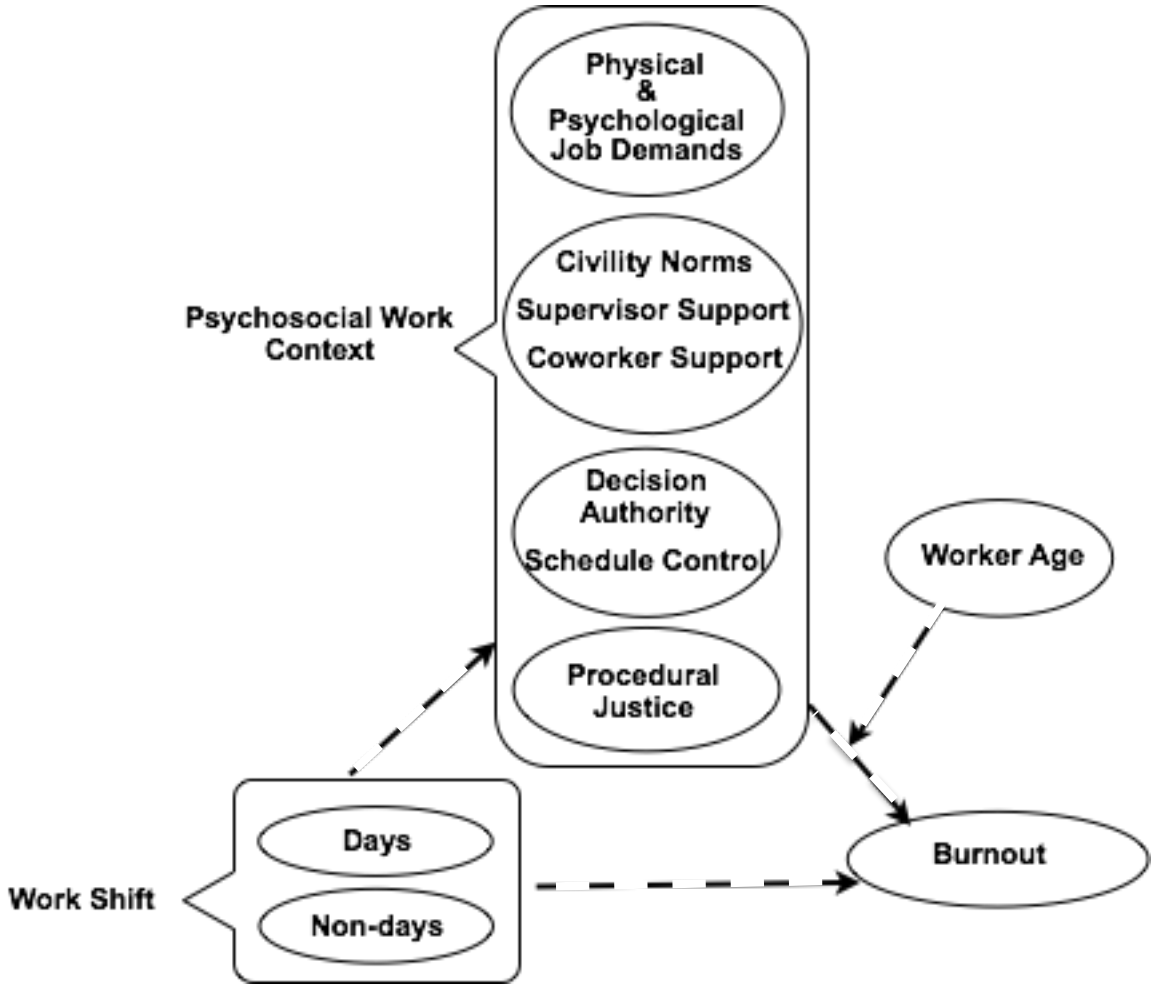
Figure 1.
Hypothetical Model of the Relationship Between Areas of Worklife, Burnout and Workshift.



Note: Associations between Areas of Worklife and burnout are hypothesized to be negative except for PE as it is a positively scored construct.

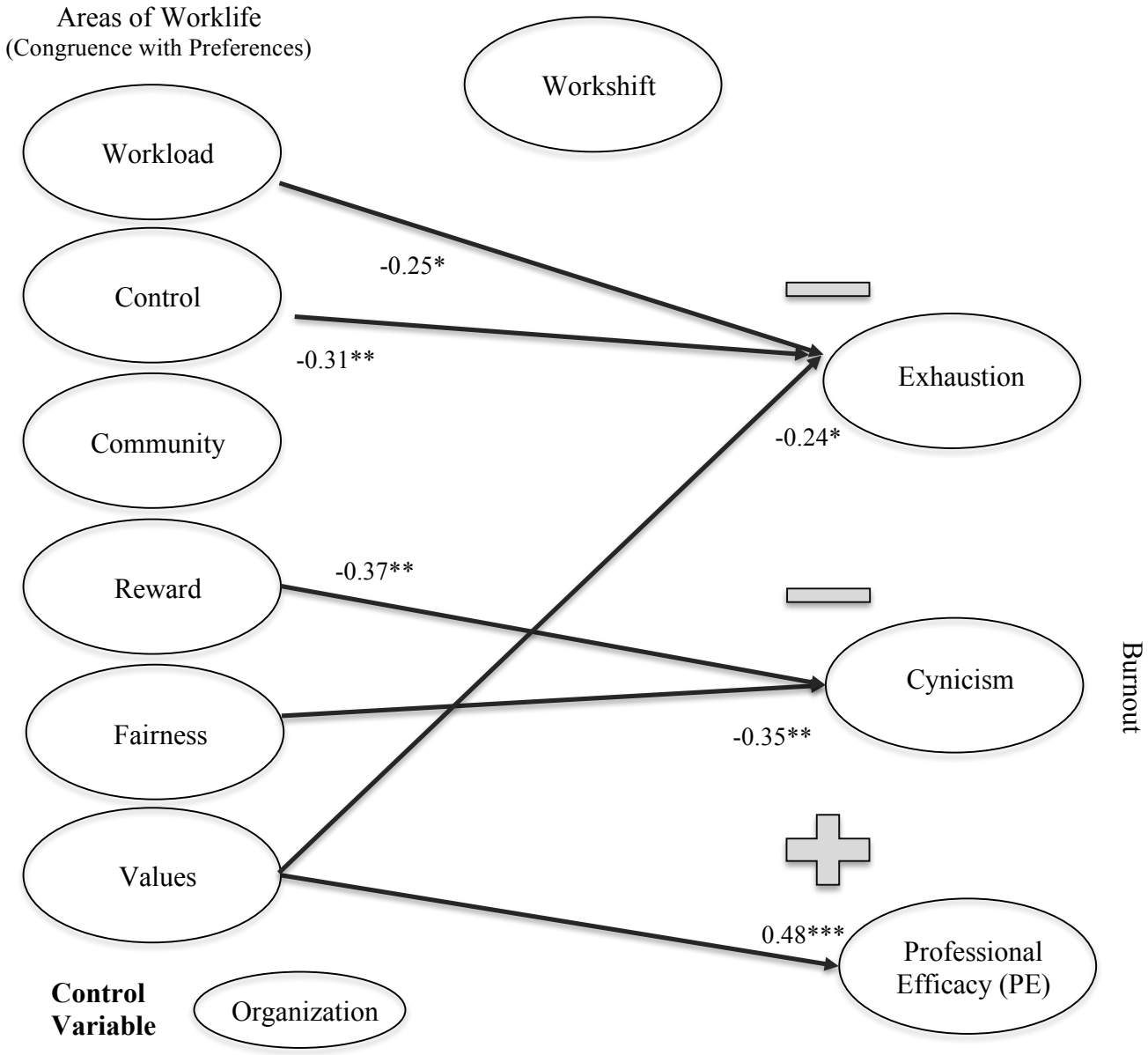
Figure 2.

Hypothetical Moderated Mediation Model Used in Study by Davies-Schrils (2011).



Note: The model used for the present study varies with respect to the following constructs: civility norms (not tested in the current study); worker age (examined as a control variable); decision authority (a component of job control in the DCS) and schedule control (a specific facet of job control).

Figure 3.
Significant Relationships After Multiple Regression of Burnout on the Areas of Worklife.



Note: Associations between Areas of Worklife and burnout are hypothesized to be negative except for PE as it is a positively scored construct. $N = 78$
† $p < .10$., two-tailed. * $p < .05$., two-tailed. ** $p < .01$., two-tailed. *** $p < .001$., two-tailed.

Appendices

Appendix A

Phone Interview Protocol

Welcome and Introduction

Hello and thank you for participating in this phone interview today. As I mentioned in my email, I am a graduate student at the University of Connecticut and I am conducting this survey as part of my dissertation research. I am interested in the experiences of workers at organizations that operate on a 24/7 basis.

Given the fact that you work at a 24/7 organization, you have been identified as a Subject Matter Expert. Your knowledge and experiences are incredibly valuable to the project. I'd like to start by tell you a little about our research, the goals of today and what this session will entail.

Introduction to the Project

The main objective of our research is to better understand the types of work experiences people have during daytime, evening, and night shifts. Upon completion of the phone interviews, the results will be summarized and used to help us conduct further research into this topic area.

Process Summary

My role in this process is to ask questions and listen. I'll be moving the conversation forward from one question to the next so we can cover as much of the goal content as possible. There will be no audio recording of the session. To ensure accuracy I will be taking detailed notes, however none of your personal information will be linked with these notes, and I will NOT be writing down specific comments that will identify you or associate you with any particular organization.

Please remember that your participation is completely voluntary so if you feel uncomfortable answering any questions, you are not obligated to do so. You may also discontinue the interview at any time.

Do you have any questions about the process?

Preliminary Questions

1. How long have you been at your organization?... this job?... in this industry?
2. What workshift do you currently work?
3. How long have you worked on this shift?
4. Have you worked any other shifts, and if so for how long?

Topic Overview

Overall, I'm interested in how work experiences can vary depending on the workshift, or time of day, that someone works. Work experiences can be described in many different ways, so I have broken down this topic into a few different areas.

Main Questions

1. The first area is "workload."
   - What types of things in your work give you a sense of "workload" at your organization?
     - How about in your job, specifically?
     - How about in your workshift?
     - How might workers on other shifts answer this question differently?
2. The next area is "control."
   - What types of things in your work give you a sense of "control" at your organization?
     - How about in your job, specifically?
     - How about in your workshift?
     - How might workers on other shifts answer this question differently?
3. The first area is "community."
   - What types of things in your work give you a sense of "community" at your organization?
     - How about in your job, specifically?
     - How about in your workshift?
     - How might workers on other shifts answer this question differently?
4. The next area is "reward."
   - What types of things in your work give you a sense of "reward" at your organization?
     - How about in your job, specifically?
     - How about in your workshift?
     - How might workers on other shifts answer this question differently?
5. The next area is "fairness."
   - What types of things in your work give you a sense of "fairness" at your organization?
     - How about in your job, specifically?
     - How about in your workshift?
     - How might workers on other shifts answer this question differently?
6. The last area is "values."
   - What types of things in your work give you a sense of "values" at your organization?
     - How about in your job, specifically?
     - How about in your workshift?
     - How might workers on other shifts answer this question differently?

Closing Remarks

That concludes the phone interview. Do you have any questions?

Thanks again for your participation today. If upon completion of the phone interview today you have any questions or concerns, please contact the Principal Investigator, Dr. Janet Barnes-Farrell, at 860-486-5929 (janet.barnes-farrell@uconn.edu) or Kimberly Davies-Schrils, graduate student researcher (kimberly.davies-schrils@uconn.edu).

Appendix B

Information Sheet for Work Experiences Online Survey

Thank you for your interest in participating in this research study. I am a graduate student at the University of Connecticut and I am conducting this survey as part of my dissertation research. I am interested in the experiences of workers in the I&R/Crisis Counseling industry, and your organization has agreed to participate.

Your participation in this study will require completion of the following questionnaire. The survey should take you no more than 20 minutes to complete. At the end of the survey, you will be offered the opportunity to enter a raffle to win a $25 Amazon Gift Card.

Your participation is voluntary. You are free to decide not to participate in this study or to withdraw at any time without adversely affecting your relationship with your employer or the researchers. The survey does not involve any risk to you, however the benefits of your participation may help increase knowledge about the experiences of workers in the I&R/Crisis Counseling industry.

All information derived from the survey will be held in strict confidentiality and will be accessible only to the study investigators. In addition, the information you provide will also be anonymous as no personally identifying information will be captured about you in the survey. Finally, participant responses will only be reported in aggregate, as a summary of combined responses, and shared with your organization.

To navigate individual pages of the survey, you can use the Tab and PageUp/PageDown keys on your keyboard or scroll bar on the right-hand side of the screen. When you are ready to move to the next page, use the NEXT button located at the bottom of each page of the survey. DO NOT use the Enter key on your keyboard to enter responses or navigate the survey.

If you have questions about this survey, please contact (student) Kim Davies-Schrils, M.A. at the University of Connecticut at Kimberly.davies-schrils@uconn.edu or (860) 707-4077; or my advisor, Janet Barnes-Farrell, Ph.D. at the University of Connecticut, at janet.barnes-farrell@uconn.edu or (860) 486-5929. You do not have to be in this study if you do not want to be. You do not have to answer any question that you do not want to answer for any reason. If you have any questions about your rights as a research participant you may contact the University of Connecticut Institutional Review Board (IRB) at 860-486-8802. The IRB is a group of people who review research studies to protect the rights and welfare of research participants.

Please select one of the following:
Yes, I have read the above information and agree to participate.
No, I have read the above information and DO NOT agree to participate.

Appendix C

All survey items and/or scales.

A. Maslach Burnout Inventory – General Scale (MBI-GSS) SAMPLE ITEMS (16 items)

Response Options: Strongly Disagree (1), Disagree (2), Hard to Decide (3), Somewhat Agree (4), Strongly Agree (5). Note: '(r)' indicates reverse-scored item.

1. I feel emotionally drained from my work.
2. I feel used up at the end of the workday.
3. I feel fatigued when I get up in the morning and have to face another day on the job.
4. Working all day is really a strain for me.

B. Areas of Worklife Scale (AWS) (28 items)

"Describing your job..."

Response Options: Strongly Disagree (1), Disagree (2), Hard to Decide (3), Agree (4), Strongly Agree (5).

Note: '(r)' indicates reverse-scored item.

FULL ITEM SET IS NOT DISPLAYED DUE TO PROPRIETARY REASONS.

SAMPLE ITEMS

Workload

1. I work intensely for prolonged periods of time. *r*
2. I have enough time to do what's important in my job.
   Supplemental items
   a. I am comfortable knowing that calls will be answered as soon as possible. *
   b. I start my shift worrying about whether I will be able to answer enough calls. *r* *

Control

1. I have control over how I do my work.
2. I have influence in the decisions affecting my work.
   Supplemental item
   a. I can influence my work environment.

Community

1. I am a member of a supportive work group.
2. I don't feel close to my colleagues.
   Supplemental items
   a. My work group and I can communicate when the need arises.
   b. I feel disconnected from my coworkers. *r*
   c. I feel as though I am part of a community.

Reward

1. I receive recognition from others for my work.
2. I do not get recognized for all the things I contribute. *R*

   Supplemental items

   a. There are opportunities to earn rewards. *r*
   b. I am not rewarded enough for my work. *r*

Fairness

1. Resources are allocated fairly here.
2. There are effective appeal procedures available when I question the fairness of a decision.
3. Management treats all employees fairly.

   Supplemental item

   a. Opportunities are offered in a fair manner here.

Values

1. My values and the Organization's values are alike.
2. The Organization's goals influence my day to day work activities.

   Supplemental items

   a. The Organization has values that are clearly stated.
   b. The values of the organization are important to me.

C. Workshift

1. What shift do you typically work? (day shift = 1, Evening shift = 2, Night shift = 3, Irregular=4)
2. What days of the week do you work?
3. How long have you worked on this shift?
4. Have you ever worked other shifts?
5. On average, how many hours per week do you spend on any of these shifts?
6. Are you on the work schedule you would prefer, and why?
7. Briefly describe the circumstances that led you to be on this shift?

D. Job Information

1. What is your job title? (text response)
3. Which of these categories best describes your job? (Telephone Counselor, Supervisor, Manager, Administrative Support)
4. Do you work full-time or part-time? (FT, PT)
5. How long have you been in this job?
6. How long have you been at this organization?
7. How long have you been in this field?
8. What shift do you primarily work? (Day shift, Evening shift, Night shift, Irregular)
9. How long have you worked on this shift?
10. Have you ever worked other shifts? (Yes, No)
11. On average, how many hours per week do you spend on any of these shifts? (Day shift, Evening shift, Night shift)

12. Do you have control over your schedule? (Definitely yes, sometimes, might or might not, definitely not)
13. Briefly describe the circumstances that led you to be on this schedule. (text)
14. On average, how frequently are any of the following people present during your workshift? (Coworker, supervisor, manager, volunteer) (Never, Sometimes, About Half of the Time, Most of the Time, Always, N/A).

E. Demographics

1. What is your age?
2. Gender (male = 1, female = 2)
3. What is the highest level of education you have completed?
4. What is your race?
5. Please indicate your marital status?
6. How many children under the age of 18 are currently living in your house?

Appendix D

Open-ended survey questions for qualitative analysis (7 questions total, 2-3 probes each)

"Your company operates 24/7, and you work ___ shift. Thinking about your experiences as a ____ shift worker…."

Q1. How would you describe your workload and why?
   a. Do you think workers on _____ or _____ shift would answer this question differently?
   b. What would they say?

Q2. How much control do you have over your work and why?
   a. Do you think workers on _____ or _____ shift would answer this question differently?
   b. What would they say?

Q4. Describe the community at your organization.
   a. Give an example of something you experienced that lends to your perception?
   b. Do you think workers on _____ or _____ shift would answer these questions differently?
   c. What would they say?

Q3. What kinds of rewards are offered for your work?
   a. Do you think workers on _____ or _____ shift would answer this question differently?
   b. What would they say?

Q5. How would you describe the fairness at your organization?
   a. What have you experienced that lends to your perception?
   b. Do you think workers on _____ or _____ shift would answer these questions differently?
   c. What would they say?

Q6. How would you describe the values at your organization?
   a. What have you experienced that lends to your perception?
   b. Do you think workers on _____ or _____ shift would answer these questions differently?
   c. What would they say?

*Q7. Due to working non-traditional schedules, _____ shift workers sometimes have unusual sleep patterns. Has this workshift changed your sleep habits, and if so how?

Note: **Only workers on evening and night shifts received this question.*

Appendix E

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