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Role Overload: Examining the Definition and Measurement of a Common Work Stressor

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ROLE OVERLOAD: EXAMINING THE DEFINITION AND MEASUREMENT OF A COMMON WORK STRESSOR

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I HEREBY RECOMMEND THAT THE THESIS PREPARED UNDER MY SUPERVISION BY Sean Becker ENTITLED Role Overload: Examining The Definition And Measurement Of A Common Work Stressor BE ACCEPTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF Master of Science.

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ABSTRACT

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Researchers previously gave considerable attention to role overload as a predictor of employee health, job attitudes, and behavior. However, the validity and conceptualization of role overload measures have been questioned and show inconsistent results. In response to the issues with role overload measures, the researcher developed a new measure of total role overload, consisting of two work related dimensions, qualitative and quantitative. These dimensions were crossed with “data people and things” to provide diagnostic ability and one non-work-related dimension of family role overload to contextualize the individual’s life. The researcher conducted three studies to examine the psychometric qualities of the new scale. Across these three studies, it was demonstrated that the new role overload scale had desirable psychometric qualities including that it displayed higher levels of substantive validity than previous versions, had high levels of internal consistency, produced an interpretable four factor structure, and evidence of construct validity was found.

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I. INTRODUCTION

Workers who report high levels of role overload have an increased risk of several negative outcomes (Bacharach et al., 1991). Fortunately, role overload is actionable via organizational interventions, such as extra training, hiring staff or providing other work benefits (e.g., work from home). Role overload is a perception the person has of the conflict between their available resources and those required to completed assigned tasks (e.g., Beehr et al., 1976). Studies have reported that the prevalence of role overload in the workplace has been on the rise (e.g., Duxbury & Higgins, 2005). A possible explanation for this phenomenon is the increased amount of time employed adults spend working over the previous few decades, in part due to technology increasing availability of the worker. This explanation is supported by researchers finding that time demands are an important predictor of role overload (Duxbury et al, 2001). High levels of role overload are linked to increased levels of anxiety, fatigue, burnout, depression, emotional and physiological stress, as well as decreased satisfaction with family and work (Bacharach et al., 1991; Barnett & Baruch, 1985; Cooke & Rousseau, 1984; Coverman, 1989). However, role overload has displayed inconsistent relationships in numerous studies with a multitude of other performance and job attitude measures (Bellizzi & Hite, 1986; Kaufman et al., 1991). One possible explanation for this inconsistency is that prior research has used a variety of conceptualizations and definitions of role overload along with unreliable measures (Guelzow et al., 1991; Komarovsky, 1976, Thiagarajan et al, 2006). This inconsistency has hampered efforts to reduce the occurrence and severity of

role overload, for if role overload cannot be defined and measured clearly, how is an organization expected to address the causes of role overload? Thus, the purpose of my study is to clarify previous conceptualizations and definitions of role overload, provide new actionable definitions, as well as design an improved measure of role overload with diagnostic ability based on the existing taxonomy of "data people, things".

The issues in the role overload literature are vast and complicated. Therefore, I provide a brief outline of how I believed they progress. Since its conceptualization, role overload has had definitional issues and has been conflated with other constructs; to address this, I detail role overload's conceptualization and transformation to demonstrate the exact differences between it and other constructs. I then argue based off Kahn et al.'s initial conceptualization of role overload that the literature needs to shift to investigation of total role overload, which means considering demands across one's entire total role set. Briefly defined, total role overload is the combined overload a person experiences from all life domains. I take this position as it is impossible to grasp the whole degree of a person's overload at work without understanding the degree of overload they experience in other domains of life. Finally, I demonstrate the deficiencies in current measures and definitions then propose a new measure based off "data people things" construct to remedy the current state of the literature.

INITIAL ROLE THEORY

I begin by examining the origins of organizational role theory and how role conflict and role overload were initially conceptualized. This is done to understand one of the primary sources of confusion about the definition of role overload. Khan et al. (1964) were the first to popularize organizational role dynamics in their seminal publication on

role theory. Within this paper, they proposed that roles are defined as the set of behaviors or activities that are expected of a person in a certain position by any other person who interacts with that person. For example, an employee has a role set they follow around their boss, and another around their coworkers.

People who would interact with the previously mentioned individuals are referred to as role senders. Role senders hold a set of beliefs and attitudes about the role in question, and these expectations vary between people. This variation means that there is potential for incompatibility within the role expectations for an individual. This incompatibility is termed "role conflict" and defined by Khan et al. (1964) as a scenario in which differing role expectations result in incompatible role pressures. This situation will lead to psychological conflict for the individual, as these pressures and role expectations continue to compete for resources. Five different types of role conflict are theorized and delineated by Khan et al. (1964). However, only two are relevant to this discussion as the others are not confused with role overload in the literature. First, inter-sender conflict is thought to originate from the pressure that occurs when one sender opposes another sender. One might think of this as when two supervisors ask an employee to do a task, and both cannot be completed at the same time. Second, person-role conflict is the conflict between external forces and internal forces such as the values and needs of the individual. Finally, role overload is defined as a complex variety of role conflict, which emerges from combined aspects of inter-sender and person-role conflicts. In other words, role overload, according to Kahn et al. (1964), is the interaction between multiple roles and the constraints of time or resources. This initial distinction shows role overload as a subtype of role conflict, and provides a vague description, demonstrating

that, even during the initial stages, researchers could easily confuse the two. Fortunately, subsequent literature has addressed this issue and provides alternative conceptualizations.

ROLE OVERLOAD EMERGES

While Kahn et al. (1964) conceptualized role overload as a special type of role conflict, subsequent literature has suggested that role overload is a distinct concept and measured it as such (e.g., Beehr et al., 1976; Coverman,1989; Hecht, 2001; Pearlin,1989). The idea that role conflict and role overload occupy different places in the nomological network of chronic role stressors is not new and has been suggested multiple times. Differences between role overload and role conflict stem from the different interactions in their definitions (Coverman, 1989; Pearlin 1989). The definition of role conflict implies that demands will arise during overlapping points in time. Think back to the example where an employee was asked to complete two tasks at the same time. In contrast, role overload is tied to a broader timeframe in which the volume of tasks is too vast given the resources available (e.g., time or ability). In this case, think of one individual being assigned a workload that would require two weeks of work, but only given a week to complete the task. The idea is also supported by studies that have demonstrated differing effects of role overload and role conflict on mental health (Hecht, 2001). In agreement with these arguments, most studies using role stressors scales also include different measures for role conflict and role overload. Studies also provide differing definitions for the concepts (e.g., Glazer & Beehr, 2005). Therefore, these findings provide strong evidence that these processes are distinct, due to the general agreement on conceptualization researchers shifted their focus towards the implications of role overload.

CAUSES AND OUTCOMES

When examining the literature there seems to be a lack of investigation into the antecedents of role overload. This may be due to the many researchers focusing on the outcomes more heavily, possibly due to the detrimental nature of these outcomes. Alternatively, it could be that researchers believe research has generally found all the important antecedents of role overload. First, researchers find that there is a positive relationship between weekly hours devoted to work and role overload (Frone et al., 1992, Guerts & Demerouti, 2003). Other authors observed that there is a strong relationship between work involvement and role overload, which is attributable to the number of hours spent at work (Higgins et al., 1992). Conceptually, both antecedents are linked intrinsically to the conceptualization of role overload, meaning that if the number of obligations and responsibilities an individual must perform increases, then the likelihood of that individual having high role overload is increased. However, I did not find an investigation into the exact strength of these relationships and whether they work together or act independently.

In contrast, the consequences of role overload seem to be extensively studied and have reached a general consensus. Role overload is linked to higher rates of absenteeism, lower organizational commitment, worse physical and mental health, burnout, depression, and greater health care costs (Glynn et al., 2009; Perry-Jenkins et al., 2007; Duxbury and Higgens 2003; Higgins, Duxbury & Johnson, 2004). In addition, a meta-analysis of common consequences of role stress showed that role overload has a correlation of .49 with emotional exhaustion and correlations ranging from .18 to .26 for other consequences such as propensity to quit, tension, and depersonalization (Örtqvist,

& Wincent, 2006). Other meta-analyses, such as the one done by Bowling et al. (2005), generally support these findings. I would argue that these correlations represent relatively strong correlations when considering these relationships in the context of the numerous factors influencing these outcome variables. Furthermore, the outcomes that role overload predicts tend to be strongly detrimental to organizations, through turnover and decreased productivity and to individuals through decreased physical and mental health. The consequences of role overload are numerous and detrimental including both organizational and individual outcomes. Fortunately, an organization can work to address not only the outcomes of role overload but also the systemic issues from which it originated.

Yet research has demonstrated contradictory relationships between role overload and other constructs. This is best evidenced by research utilizing Reilly's (1982) role overload scale which is one of the most extensively used quantitative (the amount of work) role overload scale (Bellizzi & Hite, 1986; Bumpus, Crouter, & McHale, 1999; Crouter, Bumpus, Head, & McHale, 2001; Jones et al., 2007; Ransford et al., 2008). Studies utilizing this scale have found contradictory results on numerous different concepts, such as education being both positively related (Bellizz & Hite, 1986) and negative related (Kaufman et al., 1991) to role overload. Reilly (1982) provided support that the causal relationship between role overload and convenience consumption was non-significant, yet later studies demonstrated support for the association of role overload and convenience consumption (Bellizzi & Hite, 1986; Madill-Marshall, et al., 1995). Further demonstrating this contradictory nature of role overload findings, some studies find that the relationship between role overload and performance is negative (e.g., Frone

et al., 1997). However, a meta-analysis on occupational stressors found that role overload was not significantly related to performance, suggesting either the presence of measurement issues or conceptualization issues (Gilboa et al, 2008).

MEASUREMENT ISSUES WITH ROLE OVERLOAD

These inconsistencies stem not only from previous ambiguous conceptualizations but also the lack of a validated and generally accepted measure of quantitative role overload, and this lack of consensus around the measurement has potentially hindered empirical research. This is best demonstrated by the issues present in the previously mentioned Reilly (1982) scale. While the reliability of the scores obtained are generally acceptable, the 13-item measure consistently produces contradictory results. A multitude of studies have examined this phenomenon to rationalize these inconsistencies. Maher et al. (1997) performed a confirmatory factor analysis of role overload using the 13-item measure and found relatively poor fit. To improve the fit, they eliminated items with poor fit, and retained only 7 of the original 13. Another study, Thiagarajan et al (2006), assesses the uni-dimensionality of the scale and found that only 6 of the items load onto a singular factor. This, however, is not the only issue with quantitative measures. There is a rampant use of ad-hoc measures (e.g., Barnet & Baruch, 1985; Ángulo, et al 2012) and a general lack of in-depth examination of scales due to the sheer variety of scales used (e.g., Pearlin et al., 1997; Caplan et al., 1980; Lisle, van Veldhoven, & Moors, 1998; Spector & Jex, 1998; Matthews et al., 2001; Brown et al., 2005; Cammann et al., 1983). Subsequently, the frequency of studies examining quantitative role overload has diminished, no doubt in part due to methodological issues.

In a similar vein, there are issues present in the literature examining qualitative (generally the difficulty of the situation) and family role overload (non-work tasks). The most notable is the general dearth of literature examining qualitative role overload, which has few if any general scales developed and validated. However, there exists a small amount of non-generalizable scales, such as the one developed by Britt et al (2006) for military cadets at an assessment center. As for family role overload, most measures are qualitative (method) assessments of role overload and the few quantitative assessments seem to be underutilized. In general, it seems qualitative and family role overload, are tremendously understudied concepts based on the prevalence of them conceptually.

In addition, current measures of role overload both quantitative and qualitative have not been subject to typical psychometric development and validation. The researchers developing these measures do not typically use any developed procedures for item generation or reduction (Zaichkowsky, 1985), nor have the researchers assessed the validity, or the underlying constructs through factor analysis. Furthermore, researchers have rarely explored role overload's position in the nomological network. Even in cases where the researchers have explored and created nomological networks for role overload, the networks are generic, and role overload could be replaced with numerous other occupational stressors. A quote from Spector and Jex (1998) best summarizes the situation: "Many scales are introduced to the field in an empirical paper in which the scale was used. Other researchers looking for a measure of that construct will begin to use the scale, despite only limited information about psychometric properties". The psychometric development and validation processes are important and their omission

from the literature has caused numerous methodological issues. As previously mentioned, however, this is not the only issue prevalent in the role overload literature.

CONCEPTUAL ISSUES REVISITED

Although the literature largely agrees that role overload is distinct from role conflict, the conceptualization of role overload remains fragmented and contentious. Very few, if any, researchers have attempted to generate a comprehensive theoretical model of role overload itself. Rather, most researchers have positioned role overload in other models of related concepts such as role strain or work stressors (e.g., Erdwins et al., 2001; Mobily, 1991). Previous research has mainly investigated domain-specific overload, which has been shown to be important (Erdwins et al. 2001; Beehr et al., 1976). But there is an overall lack of investigation into total role overload, which is arguably just as important. According to Kahn et al. (1964), overload within any single role is not a necessary requirement for overload within the total role set. This means that even if the demands of specific roles are not deemed over-demanding when examined independently, the effects of multiple roles in combination can lead to perceived overload within the total role set. However, due to prevalence of breaking down role overload into separate categories, research demonstrating this idea is lacking. Further demonstrating this compartmentalized view of role overload is the idea of different variants, the most prevalent of which are qualitative and quantitative (Gomme & Hall, 1995; Cooper et al., 2001). These role overload variants are conceptualized differently, with quantitative role overload referencing the *amount* of work and qualitative role overload referencing the *difficulty* of the work. These constructs are treated as distinct in the literature instead of being referred to as dimensions of total role overload. This lack of exploration into total

role overload, and fragmentation of definitions and conceptualizations, has likely hindered the efforts of researchers in understanding role overload.

There is a clear lack of consensus about the definition of role overload, but there are two critical points that are nearly ubiquitous in definitions. First, all operational definitions incorporate the idea that role overload is related to demands conflicting with the limits of an individual's resources (e.g., Jones et al., 2007; Khan et al.,1964; Michel et al., 2010). Second, the limit of an individual's resources is based on perception (e.g., Jones et al., 2007; Khan et al., 1964; Michel et al., 2010). In other words, two individuals may have equivalent workloads and KSAOs, but one may perceive the demands differently and experience role overload even though objectively the demands are equivalent.

ROLE OVERLOAD DEFINED

It seems that there are glaring methodological and conceptual issues present in the measurement of role overload currently in the literature. To alleviate the current state of the literature, I propose that a new measurement should be developed. I base it conceptually on the initial arguments put forward by Khan et al. (1964.), which proposed that role overload should be conceptualized in terms of 'total role overload.' Which I previously provided a brief definition stating it is, the outcome of over-demands across one's entire total role set. My full definition of total role overload is: an individual's perception that the collective demands of his/her multiple roles exceed available time, energy and ability, making the individual unable to adequately fulfill the requirements of his/her various roles to the satisfaction of self or others. This definition is the basis of development for the new role overload measurement. Which, in contrast with the current

status-quo, will span across domains and look at the entire role set and how it affects the individual instead of contextualizing the measure to a specific scenario (e.g., work). This is important as an individual, as previously mentioned, may still feel overloaded even though each aspect of their life individually is not (Kahn et., 1964). Therefore, I believe the development of this new measure will address not only the methodological issues present in the literature but the conceptualization issues as well**.**

To date, few studies have systematically explored the exact nature of dimensionality in total role overload, leaving its precise composition unclear. I theorize, based upon the extant literature, that role overload consists of three sub dimensions (e.g., Reilly, 1982; Frone et al., 1992; Elloy & Smith, 2003): quantitative, qualitative, and family (refer to Table 1 for full definitions). In general agreement with previous definitions put forth in the literature, I define the dimension of quantitative role overload as; the perceived conflict between the demand of the job as an organizational citizen and the time availability for meeting the job demand (e.g., Reilly, 1982). This definition, as stated, agrees with the prevailing viewpoint of the literature, with minor word changes to be parallel with the other definitions. To better operationalize qualitative role overload, which very few studies have done, I depart slightly from prior definitions. I define qualitative role overload as the mismatch between the demands of the job and the individual's knowledge, skill, and aptitude. This definition provides a solid foundation that is less ambiguous than prior definitions which generally referred to the difficulty of the situation (e.g., Elloy & Smith, 2003; Cooper et al., 2001). Difficulty of the situation may in some cases be a challenge instead of a hindrance, altering this definition allows for this potential conflict to be resolved. To examine all role sets, as proposed in the

definition of total role overload, I believed that family role overload is a necessary inclusion. In agreement with most of the extant literature, family role overload is defined as the conflict between the demands of family roles (Parent, spouse, caregiver, friend) and the time availability for meeting the family role demands (e.g., Frone et al.,1992). Combined, I believe that these dimensions when crossed with "data people and things" taxonomy represent total role overload (Fine, 1955).

IMPORTANCE

The development of an improved scale will provide a foundation upon which debates about the nature of the relationship between role overload and other constructs can be based. As evidenced earlier, role overload has a non-significant relationship with performance when conceptually one would expect the outcomes of role overload should be linked intrinsically to performance (Gilboa et al., 2008). One possible explanation that has been put forth is that role overload is both a hindrance stressor and a challenge stressor depending on the situation and person. Conceivably, role overload is regarded as a stressor for it imposes demands on an individual who does not have the resources to overcome. A differing perspective is that role overload may occur due to high performers taking on more tasks and responsibilities. In this situation role overload has the possibility to be perceived as a positive challenge to overcome rather than a negative stressor (cf., Lepine et al., 2005). Another proposed explanation is that role overload is perceived as a challenge when organizations are in a stage of growth (e.g., working at a startup company) whereas it may be perceived as a threat when the organization is in a stage of decline (Gilboa et al., 2008). These future avenues for research will help clarify the exact relationship of role overload with performance, but due to the tenuous nature of

these possible relationships, current measures are inadequate for assessing this relationship.

It is also important that this area of literature be revisited and revitalized with increased methodological rigor, and with a new perspective based on total role overload, as new predictors and outcomes have emerged. Most of the research examining role overload was done prior to 1990. Subsequently, little is known about the impacts of more recent technological developments. Developments in technology have radically changed the way individuals interact with work. New, nontraditional, methods of work, such as telecommuting, further obscure the boundaries between work and home. This demonstrates the importance of considering the entire role set when evaluating role overload. Similarly, technology has enabled workers to be able to always be connected to work, even further obscuring work and home. Technology also presents an ever-changing stimulus that workers need to be able to proficiently interact with, representing a probable increase in prevalence of qualitative role overload. Additionally, the role that downsizing plays in employees' perceptions of role overload has not been explored. These new developments conceptually seem to be linked to role overload, and as such, understanding their interactions will prove important for researchers, individuals, and organizations alike. Understanding these new developments will allow researchers to recommend actionable practices for organizations to reduce employee role overload.

DATA PEOPLE THINGS

One additional step I am taking in constructing the new measure of total role overload is crossing the two work dimensions, qualitative and quantitative, with the "data people things" taxonomy of job classification (Fine, 1955). The "data people things"

taxonomy of job classification is a method of classifying jobs based on the functions of the worker in the job, refer to Table 2 for a list of worker functions under each dimension. In using this approach, I chose to cross these two constructs, as I believed it provides a macro-level view of jobs and allows for the most information to be obtained from the least amount of additional questions. This was done for two main reasons, to combat conceptual drift during the item reduction stage and increase the diagnostic ability of the total role overload measure.

MULTI DIMENSIONALITY

Multi dimensionality is one of the most important features obtained by incorporating the "data people things" construct into the total role overload scale**.** While I have previously stated that role overload is actionable through organizational intervention, current measures do not provide organizations with the necessary information to fix the situation. This is due to a deficit in current measures, which almost exclusively look at quantitative role overload, but do not contextualize the type of work the individual is struggling with. This is addressed by crossing the role overload dimensions with the data people things taxonomy. This is best illustrated through an example of a job that falls under multiple dimensions, such as an administrative assistant. This job could exhibit any form of overload, be it quantitative data overload, where they are given more information than is feasible to input to a system, to qualitative people overload, where the individual feels they are overwhelmed due to complex interactions or politics they must deal with on the job. Two issues could occur with this situation, current measures might say only one situation exhibits overload, even if technically both exhibit it, due to only examining one domain. Alternatively, if current measures correctly

identified both situations, it still would not be able to provide a correct course of action due to not being able to differentiate between the types. Since the measures are not able to differentiate the different types of overload, the organization would attempt to solve the wildly different problems above with the same solution. Whereas the new total role overload scale is crossed with the "data people and things" construct, it can show in much greater detail, demonstrating exactly what the individual is overwhelmed with. This could dramatically increase the diagnostic ability of the measure, in turn granting organizations a wider tool kit to solve role overload problems.

NOMOLOGICAL NETWORK

CONSTRUCT VALIDATION

At its foundation, construct validity concerns the degree to which a measure captures its intended theoretical construct (Cronbach & Meehl, 1955). One method of establishing construct validity is through establishing nomological validity, which is based on evidence that measures of a construct exhibit predictable relationships with other constructs, which themselves are based on relevant theory (Cronbach & Meehl, 1955). Nomological validity entails evaluating a measure within broader theory, to describe causes, effects, and correlates of the construct in addition to how they relate to one another (Cronbach & Meehl, 1955). One issue with this approach is that nomological networks can be generic, meaning that one could replace the main construct with another similar construct and obtain nearly identical results. Thus, I hope to establish the construct validity of my new measure, diagnostic total role overload, by establishing a unique nomological network (refer to Table 3) that will demonstrate the uniqueness of each dimension.

WORKLOAD

In general, numerous researchers combine the constructs of workload and role overload (e.g., Bowling et al. 2015). However, upon examination of both the items used to measure the constructs and most definitions there are differences. Role overload, as mentioned previously, is concerned with an individual's perceptions of time available versus time required to complete a task. Similarly, workload is generally defined as the amount of work in terms of pace and volume (Spector & Jex, 1998). The two definitions of these constructs as one can see are quite similar. However, the differences can be easily explained by looking at items used to measure the constructs. Two sample items from a commonly used measure of workload are: 1. How often does your job leave you with little time to get things done? 2. How often does your job require you to work very fast? (Spector & Jex 1998). In contrast, two sample items from a commonly used measure of role overload are: 1. It often seems like I have too much work for one person to do. 2. I am given enough time to do what is expected of me on my job. (Beehr et al., 1976). When looking at the items, the distinction becomes clear, workload is focused on an individual's perceptions of the amount of work needed to be done and role overload is focused on an individual's perceptions of whether they have enough time or resources to finish the amount of work assigned. Accordingly, since these are two distinct concepts, but are related, workload should have at a weak to moderate positive relation to role overload.

JOB COMPLEXITY & PROBLEM SOLVING & INFORMATION PROCESSING

While there is a lack of research that looks at the relationship between these job characteristics and role overload, I believe that there is likely a significant relationship

between the data facet and these three job characteristics. Each of these constructs should fall under the data domain of job characteristics, and each of them would conceivably increase the difficulty and amount of work an individual would have to complete at work. Additionally, I would expect there to be a moderately negative correlation for job complexity and the things facet. I believe that individuals with less complex jobs e.g. (day laborer) will have more work and more exhausting work than an individual who has a complex things job e.g. (crane operator). Therefore, I would expect there to be a significant weak positive correlation between these characteristics and the data facets of role overload, and a moderate negative correlation between job complexity and the things facet of role overload.

O*NET JOB CHARACTERIZATION

Including O*Net's characterization of the job, i.e., how much does this job involve data, people, or things, is important as it allows one to objectively ensure that our concepts are being represented correctly. As mentioned previously, I am crossing role overload with the "data people and things" construct, allowing for 7 total facets (6 work, 1 family). I will be comparing items that I believe tap into the "data people and things" construct to objective measures of the construct, allowing for a check on conceptual drift of the concepts. This is important, as using data driven techniques to reduce the item set, introduces the possibility of changing the context of the items. However, even if a job is rated highly on one aspect such as data, this does not mean that there will be a strong correlation. This can happen for a multitude of reasons such as people self-selecting for these jobs, meaning what might objectively be a job ranked high in data, will not lead to

high data role overload as the individual would not perceive it as such. Consequently, I would expect there to be a weak positive relation to each aspect of role overload.

NUMBER OF HOURS WORKED PER WEEK.

Researchers have demonstrated the positive relationship between the number of hours an individual works in a week and the prevalence of role overload (Frone et al., 1992, Guerts & Demerouti, 2003). It is expected that all role overload facets will demonstrate a significant moderate to strong positive relationship with this construct. Alternatively, there might be no relationship between this construct and role overload due to there being no variance in the data set, as a 40-hour work week is the standard full time work week.

PHYSICAL INJURIES

While I am unaware of any researchers that have looked at the relationship between the occurrence of role overload and physical injuries, logically one would expect the relationship between the constructs to be positively related. If a person is injured, it would be harder for them to complete the physical aspects of their job, increasing the chance they feel the amount of work they are required to do is overwhelming. It would also logically make the tasks more difficult, for example, imagine you are a landscaper and broke your hand, it would be exponentially harder to manipulate the required tools. Additionally, all jobs require some form of physical labor, even if minimal such as typing on a keyboard. Therefore, I expect that this concept will demonstrate at a moderate to strong positive correlation with the physical facets of role overload, and a weak correlation with the other two work facets.

SOCIAL SUPPORT

Previous researchers have found that there was not a significant relationship between social support and role overload (Erdwins et al, 2001). I, however, believe this is due to the way they measured role overload, which was done by asking one question, “How often do the things you do add up to being just too much?". Due to the ability to be able to look at each individual aspect of role overload, I believe that social support will have a significant negative, or buffering, relationship with the people, family, and data facets of role overload. Additionally, I would expect that the presence of support would directly address the causes of role overload, by having other individuals lift the burden of a difficult task. I believe social support will not influence the things facet as generally there is not a way to alleviate the difficulty of physical work compared to social aspects or providing clarification on data aspects. Therefore, I would expect at least a weak negative relationship with the people, data, and family facets.

WORKPLACE CONFLICT & INTERACTION OUTSIDE ORGANIZATION

While I am unaware of any research that has examined the relationship between role overload and the two constructs, workplace conflict, and interaction outside the organization, conceptually they should have a positive relationship with the facets of the diagnostic total role overload scale. Consider the following, if an individual has a higher level of interaction outside the organization they will be exposed to more interactions with individuals, increasing the chance for people role overload to occur. This person could find the number of interactions difficult or overwhelming, similarly, they could be an introvert and find the situations just inherently difficult. There might also be a similar effect for the things facet, where jobs that might experience the things facet of role

overload would be customer facing or must work with individuals from other companies frequently and subsequently, there might be a small effect for this group. In a similar vein, with an increased prevalence of workplace conflict, one would expect that individual to also have increased levels of role overload in all facets of role overload, but with the people facet being the highest. Individuals who have high levels of interpersonal conflict, are going to be engaging in difficult situations with others frequently, which is a perfect scenario for people facet role overload to occur. These difficult situations also spill over and cause issues in other aspects of their job causing the other facets of role overload to occur. Therefore, I expect that interaction outside organization would be weakly correlated with the people and things facet of role overload, and workplace conflict to be moderately correlated with all aspects of role overload but most strongly with the people facet.

PHYSICAL DEMANDS & PHYSICAL SELF-EFFICACY

While researchers have looked at the relationship between role overload and self-efficacy and found it to be non-significant (Omar et al., 2016), I am unaware of any studies that examined the relationship between physical self-efficacy and role overload. I would expect that there is a relationship between the things facet of role overload, which is focused on all types of physical activity or use of equipment, and physical demands and physical self-efficacy. I would expect there to be a significant moderate negative relationship between physical self-efficacy and the things facet of role overload. Logically, if a person has a high confidence in their physical abilities, it would be less likely for this person to experience role overload for physical tasks. Conversely, I would expect the opposite to occur for family facet of role overload, as this person is confident

in their physical ability, they will most likely be tasked with more physical labor tasks subsequently leading to role overload. Additionally, I would expect a significant strong positive relationship between physical demands of the job and the things facet of role overload. If a job has more physical demands an individual would be more likely to perceive these demands as overwhelming. Also, I would expect a weak relationship between the people and data facet of role overload and physical demands as there will be a small overlap with physical demands and these aspects of the job since everything requires some form of physical demands.

FAMILY WORK CONFLICT & WORK FAMILY CONFLICT

Multiple researchers have found significant relationships between role overload and constructs such as family work conflict and work family conflict (e.g., Erdwins et al., 2001). These researchers have demonstrated that there is a significant positive relationship between work-family conflict and role overload over multiple settings and groups. Additionally, since role overload is based upon perceptions, it follows that if a person is satisfied with their work life balance (i.e., having low work family conflict), they would be less likely to perceive their work as causing them to be overloaded. I expect that all facets role overload will moderately correlate with these two constructs, apart from family which would correlate stronger than the other facets.

JOB SATISFACTION

Researchers have generally found significant negative relationships between job satisfaction and role overload (e.g., Wang et al., 2018). Conceptually, this makes sense as one would expect people would experience less job satisfaction when experiencing role

overload and vice versa. This is supported by research findings where job satisfaction was found to play a partial mediating role in the relationship between role overload and turnover intention with 40% mediation (Bhattacharya, et al., 2017). Suggesting, that higher levels of role overload led to lower levels of job satisfaction and in-turn leads to turnover-intent. Therefore, I expect that all facets of role overload will have at least a significant negative moderate correlation with this construct.

EXISTING ROLE OVERLOAD SCALES

One would expect that previous measures of role overload, specifically Beehr et al. (1976) and Thiagarajan et al. (2006), would demonstrate a pattern in the nomological network like the new diagnostic role overload scale. Additionally, I would also expect these measures would be positively correlated with the new diagnostic measure. However, as previously elaborated on, these prior measures are lacking in numerous aspects. One example of this is that the questions these scales contain mainly ignore examining the things facet of role overload, focusing mainly on white collar jobs. I would expect these prior scales to demonstrate a strong significant correlation to all facets of role overload, except the things facet which will most likely have a moderate to weak relationship, but these scales will remain a distinct concept due to the new conceptualization of role overload being introduced in this measure.

ROLE STRESSORS (AMBIGUITY AND CONFLICT)

As previously mentioned, role overload was conceptualized as a special form of role conflict (Kahn et al. 1964). In addition, the role overload concept in the literature has been confused with both role conflict and role ambiguity numerous times. However, it

has been established that role overload is a concept distinct from both role ambiguity and role conflict (Beehr et al. 1976). Therefore, I expect that role overload will demonstrate a weak to moderate significant correlation with these role stressors.

Self-Monitoring & Openness to Experience

These two concepts are being included in the nomological network as it is expected they have no relationship with role overload (Rai & Kumar, 2012). They are included to demonstrate the impact, if any, of common method variance on the observed results, as suggested by (Lindell & Whitney, 2001). This is important since the measures used are self-reports due to the nature of the constructs being measured. Additionally, there is a higher chance for this to occur as this is cross sectional research (Lindell & Whitney, 2001). Demonstrating that common method variance is not skewing the results or the direction it is skewing the results, should it be, is important for understanding the resulting nomological networ

II. STUDY 1: ITEM REDUCTION

METHOD

ITEM GENERATION

I generated scale items based on the definitions I drew from the extant literature. These definitions represent three facets: qualitative, quantitative, and family role overload (e.g., Reilly, 1982; Frone et al., 1992; Elloy & Smith, 2003). Using these definitions (refer to Table 1) as a starting point, I further divided qualitative and quantitative into three parts: data, people, and things (United States Employment Service, 1991). This was done to capture all aspects of the workplace and ensure that conceptual drift is minimized. Family role overload was not divided into these categories as the people, data and things classification is based on work tasks (United States Employment Service, 1991). These items, consistent with recommendations (Hinkin, 1998), were generated to be succinct and easily comprehensible. Items were developed independently by two individuals, Sean Becker, and Dr. Nathan Bowling, obtaining a large original item pool. Subsequently the items were then screened for redundancy and representativeness of each role overload dimension by the researcher, resulting in a set of 96 items (refer to appendices V, W, X, Y).

PARTICIPANTS AND DESIGN

Participants in Study 1 were 200 full time employees who were recruited through Amazon's Mechanical Turk platform. I defined full time employment as at least 20 hours per week for at least the past 6 months. I also screened participants based on country of

employment, meaning they must live in the U.S. and I stipulated that they must speak English fluently. I screened based on this to eliminate confounding variables that may affect a person's responses. Also, to ensure that quality data was collected, I stipulated that the worker had to have a 95% acceptance rate on their tasks. In addition, there were multiple attention check questions in the survey. Based on these parameters 28 participants were removed for not being full time and 25 for failing any of the attention checks, in sum 147 participants were retained. All participants were compensated $1 for their participation for completing the online sorting task. I collected the data by asking the Mechanical Turk users to complete an online packet of questionnaires. This was done because datasets collected through commercial online panel data (OPD; e.g., Mechanical Turk) show similar psychometric properties and produce criterion validities similar to datasets collected from more traditional ways (e.g., in-person surveys; Walter, Seibert, Goering, & O'Boyle, 2019). There were 96 male participants and 49 female participants and 2 who did not identify sex. The participants had a mean age of 38 with an SD of 10. The participants had an average of 6 years job tenure (SD = 4 year) and worked an average of 40 hours (SD = 6 hours) per week. Sample job titles included "Nurse," "Investment Director," "Web Developer," and "Kitchen Manager." The median income was $70,693 per year (SD= $57,081). 73 % of the participants were Caucasian, 3% were Hispanic, 7% were Asian, 13% were African American, 2% were Native American and 1% left the ethnic origin question blank. Participants spanned different levels of academic backgrounds: High School (6%), some college but no degree (9%), associate (9%), bachelor (50%), Masters (25%), PhD (0%), and post-doc (1%).

MEASURES

DIAGNOSTIC TOTAL ROLE OVERLOAD. I measured total role overload with a 96-item scale, consisting of 7 separate dimensions (e.g., qualitative data, quantitative data, qualitative people, quantitative people, quantitative things, qualitative things, and family), developed by the author. Participants responded using a 7-point scale scored from 1 = *Strongly Disagree* to 7 = *Strongly Agree.* A sample item for qualitative data is (The intensity of thinking required by my job is too much for me.), quantitative data is (The amount of thinking required by my job is more than I can handle.), qualitative people is (The amount of social interaction required by my job is too difficult for me.), quantitative people is (The amount of social interaction required by my job is too great.), qualitative things is (The intensity of physical action required by my job is suitable for me.), quantitative things is (The amount of social interaction required by my job is difficult for me to cope with.), family is (I never seem to have enough time to get all my family work done.). A high score on any dimension indicated that the participant has experienced high levels of that type of role overload. For the entire item sets refer to Appendices V, W, X, Y. For retained item set refer to appendices AA, AB, AC, AD.

CARELESS RESPONDING. I measured careless responding using a set of 3 items mirroring the approach that Beach (1989) called a Random Response Scale (RRS). Unlike other items in the survey, these items had a clear correct response, and incorrect response suggest "the possibility of random responding, misreading of questions, or lack of effort in the task" (Beach, 1989, p. 102). Three RRs items were embedded into the survey, one on each page. All the items were instructed response where participants had to choose a specific answer such as 'strongly agree.' An example item from this measure

is “When you get to this item, please select ‘strongly agree’.” Item scores were converted to dichotomous measures, either “hit” or “miss” based on the correct answer to the question. These items were then summed for a score ranging from 0 to 3. Participants with a score of 1 or higher on this scale had their responses omitted from the data set.

DEMOGRAPHICS**.** I measured demographics with 4 separate multiple-choice items and 4 open ended. I measured demographics with questions asking about income, education level, ethnicity, age, sex, average hours worked per week, job title and fluency in English. Participants responded by picking one of the provided choices for 4 of the questions. For the remaining question participants responded typing the answer in the provided space. For entire item set refer to Appendix T.

ANALYSIS

ITEM ANALYSIS. Item analysis plays an important role in the development of new scales, as it is used to examine item discrimination and difficulty of individual items (Spector, 1991). In study 1 I conducted item analysis using 96 items retained from the item generation stage. In addition, item analysis was also performed to heavily reduce the item set for the next study.

I used R (Ludecke, sjPlot, 2021) to analyze each individual scale and retained 3 individual items (4 for family). These items were retained based on item total correlations, Cronbach’s alpha changes, item discrimination and similarity of items. For all scales, reverse coded items were removed as they performed poorly on all metrics (e.g., average item-total correlation $\approx .1$). Additionally, the family role overload scale was reduced following the previously mentioned criteria and retained four items (refer to Table 5 for a list of retained items). For all non-family role overload scales item 2, “The

amount/intensity of (thinking, social interaction, physical action) required by my job is too much for me" was retained as it was the best performing item on most scales. All other 9 positively scored items were chosen based on how well the items performed in my analysis and with the additional stipulation that none of the items (except item 2) were repeated across scales. Refer to Table 5 for a list of retained items.

CONFIRMATORY FACTOR ANALYSIS. I used the program R, and package lavaan, (Rosseel, lavaan, 2012) to test four CFA models. The first was, a one-factor baseline model, in which all 22 items across 7 dimensions were loaded onto a single latent factor. The next model was a two-factor hypothesized model, where 9 quantitative role overload items and 9 qualitative role overload items loaded onto one latent factor, and the 4 new family role overload items loaded onto a second latent factor. The third model tested was a three-factor hypothesized model, in which the 9 quantitative role overload items loaded onto one latent factor, 9 qualitative role overload items loaded onto a second latent factor and 4 family role overload items loaded onto a third latent factor. The final model tested was a four-factor model in which the 6 qualitative and quantitative (combined) data items loaded on one latent factor, 6 combined people items loaded onto the second factor, 6 combined things items loaded onto the third factor and 4 family items loaded onto the final factor.

RESULTS

I retained items for the preliminary version of the new diagnostic total role overload scale based on two criteria: (a) I considered the item discrimination of each item, (b) I eliminated items that were worded too similarly to each other. I did not retain an equal number of positively scored and reverse scored items, negative items performed

poorly (Table 5). Using these criteria, the items that remained from this stage can be found in Table 5. Each positive item yielded high item-total correlations (>.70) in study 1 (Table 5). As show in Table 5, in study 1 I found high internal- consistency reliabilities for each facet of role overload ($\alpha > .95$ for all facets), and I observed a significant positive relationship between all the facets of the new diagnostic total role overload scale.

All models had errors correlated for questions that had identical wording (i.e., one question is repeated across all scales). Additionally, A 4-factor model with non-correlated errors is provided as well for comparison purposes. The one-factor model yielded poor fit ($\chi 2$ (186) =769.55, $p < .01$; CFI = .869; TLI= .837 RMSEA = .149; SRMR = .054), the two-factor model yielded marginally better fit ($\Delta\chi 2$ (1) = 116, $p < .01$), with the work/family model resulting in ($\chi 2$ (185) =653.5, $p < .01$; CFI = .895; TLI=.87; RMSEA = .134; SRMR = .044). Similarly, the three-factor model, qualitative, quantitative, and family, resulted in marginally better fit ($\Delta\chi 2$ (2) = 8.6 $p < .05$) ($\chi 2$ (183) =645, $p < .01$; CFI = .896; TLI=.869; RMSEA = .134; SRMR = .043). In contrast, the four-factor model, "data people things" and family yielded acceptable fit, correlated errors: ($\chi 2$ (180) = 378.343, $p < .01$; CFI = .955; TLI= .946 RMSEA = .086; SRMR = .027) non-correlated errors: ($\chi 2$ (203) = 524.36, $p < .01$; CFI = .928; TLI= .918 RMSEA = .106; SRMR = .031). Furthermore, the four-factor model produced significantly better fit than did either the one-factor model ($\Delta\chi 2$ (6) = 372.8, $p < .01$), or the two-factor model ($\Delta\chi 2$ (5) = 256.8, $p < .01$), or the three-factor model ($\Delta\chi 2$ (3) = 248.16, $p < .01$) or the uncorrelated four-factor model ($\Delta\chi 2$ (23) = 127.65, $p < .01$). The factor loadings of the 22 role stressor items, which were taken from the analyses of the four-factor model, are each statistically significant ($p< .01$) and the standardized loadings are all greater than .70 (see Table 7).

I examined the factor structure of the total role overload measure, which were a priori predicted to form four facets, these being qualitative/quantitative (combined) data role overload qualitative/quantitative (combined) people role overload, qualitative/quantitative (combined) things role overload and family role overload. This model demonstrated the best fit on the fit metrics and fit significantly better than other models tested. These results provide support for my hypothesis, that total role overload is indeed made of the four facets proposed. These findings were generally replicated across Study 3 as well (see Table 4).

DISCUSSION

Based on my results in Study 1 I believe that the results of the CFA support the hypothesis. However, one could argue that there may be an alternative explanation for my CFA results. That would be that these items are affected by conceptual drift, that being the items retained were chosen by data and drifted away from the initial conceptualization I had for each facet. In response to this issue, I believe that conceptual drift would not be an issue in this study, due to forcing items to represent items, data, and things and retaining equivalent numbers of items in each dimension. However, I still examined the different facets correlations to external variables, to ensure that our constructed facets aligned with previous conceptualized relationships (Table 4). From these results I believe that no conceptual drift occurred. Additionally, results from Study 3 examining the construct validity of the new scale, support the conclusion that conceptual drift did not occur, and that each facet aligned with previous conceptualizations.

STUDY 2: ITEM SORTING

METHOD

PARTICIPANTS AND DESIGN

Participants in Study 2 were 39 full time employed individuals who were recruited through Amazon's Mechanical Turk platform. I defined full time employment as at least 20 hours per week for at least the past 6 months. I also screened participants based on country of employment, meaning they must live in the U.S. and I stipulated that they must speak English fluently. I screened based on this to eliminate confounding variables that may affect a person's responses. In addition, to ensure that quality data was collected, I stipulated that the worker had to have a 95% acceptance rate on their tasks. Additionally, there was a careless responding question in which participants had to sort the item to the specified construct. Based on these parameters 21 participants were removed for failing the careless responding question, in total 18 participants remained for examination. These participants were compensated $1 for their participation for completing the online sorting task. I collected data by asking the Mechanical Turk users to complete an online packet of questionnaires. This was done because datasets collected through commercial online panel data (OPD; e.g., Mechanical Turk) show similar psychometric properties and produce criterion validities similar to datasets collected from more traditional ways (e.g., in-person surveys; Walter, Seibert, Goering, & O'Boyle, 2019). There were 13 male participants and 4 female participants and 1 participant who did not identify their sex. The participants had a mean age of 35 with an SD of 10 years.

The participants had an average of 7 years of tenure (SD = 4 years) and worked an average of 36 hours (SD = 13 hours) per week. Sample job titles included “Manager,” “Data Analyst,” “Arborist,” and “Teacher.” The median income was $57,353 per year (SD= $26,045). 79% of the participants were Caucasian, 5% were Hispanic, 7% were Asian, and 10% were African American. Participants spanned different levels of academic backgrounds: High School (2%), some college but no degree (2%), associate (5%), bachelor (70%), Masters (20%).

ITEM SORTING

I have criticized several of the existing role overload scales for having questionable content validity; I thus conducted Study 2 to examine the substantive validity of the new diagnostic total role overload scale, commonly confused constructs, and previous role overload scales. Substantive validity is a subset of content validity that speaks to whether item content (i.e., the behavior reflected in an item) represents the theorized construct, a non-theorized construct, or multiple constructs (e.g., Anderson & Gerbing, 1991). Substantive validity and content validity differ only in their level of analysis. Where substantive validity is a characteristic of individual items, content validity is characteristic of the set of items. In this study, due to the methodology being used, which will be expanded upon later, will also inadvertently establish face validity, which in essence is do the items appear to be appropriate for the construct in question. In sum, substantive validity is critical because substantive validity is a prerequisite to construct validity (Anderson & Gerbing, 1991, p. 732).

Following the methods described by Anderson and Gerbing (1991), I measured substantive validity by asking judges, who were people drawn from a typical population

that the items would be administered to, to read non-technical definitions of multiple psychological constructs. These "judges" were provided with nine psychological constructs and example items. Due to the nature of the study, it is important that I use non-technical definitions, therefore names of constructs were changed for simplicity. As an example, I will provide the definition of only one construct, for the rest please refer to appendix U. I provided judges the following definition of role ambiguity, which I referred to as "Job Uncertainty":

> In some jobs, workers are routinely placed in situations that lack clarity. They may, for instance, be given assignments that are unclear, or they may not be given information needed to do their job. Other workers may be given unclear information about their own authority or responsibilities. Still other workers may have to follow organizational policies or guidelines that are unclear. Each of these is an example of "job uncertainty." This concept focuses on the uncertainty a worker feels about responsibilities or tasks.
>
> An example question is: " I feel certain about how much authority I have."

I then presented the judges with the new role overload items along with the other construct's items. These items were presented in random order. I asked the judges to drag the item to the construct that they believed it best represented. These boxes were (a) workload, (b) role conflict, (c) role ambiguity, (d) qualitative role overload data, (e) quantitative role overload data, (f) qualitative role overload people, (g) quantitative role overload people, (h) qualitative role overload things, (i) quantitative role overload things. Judges could assign each item to only one role stressor construct. In addition, to protect

against and detect careless responding I included careless responding items, to make sure participants are paying attention.

MEASURES

DIAGNOSTIC TOTAL ROLE OVERLOAD. Participants were asked to sort a diagnostic total role overload with a 22-item scale, consisting of 6, 3 item dimensions (e.g., qualitative data, quantitative data, qualitative people, quantitative people, quantitative things, and qualitative things,) and 1, 4 item dimension (family) developed by the author. Participants responded by placing the items in one of the provided 9 boxes, workload, job uncertainty, job conflict, qualitative job overload data, qualitative job overload person, qualitative job overload physical, quantitative job overload data, quantitative job overload person, quantitative job overload physical. A sample item for qualitative data is (The intensity of thinking required by my job is more than I can handle.), quantitative data is (The amount of thinking required by my job is more than I can handle.), qualitative people is (The intensity of social interaction required by my job is difficult for me to cope with.), quantitative people is (The amount of social interaction required by my job is too much for me.), qualitative things is (The intensity of physical action required by my job is outside of my comfort zone.), quantitative things is (The amount of physical action required by my job is too great), family is (I never seem to have enough time to get all my family work done.) . For the entire item set refer to Appendices AA, AB, AC, AD.

QUANTITATIVE WORKLOAD. Participants were asked to sort a 5-item quantitative workload measure developed by Spector and Jex (1998). Participants responded by placing the items in one of the provided 9 boxes, workload, job uncertainty,

job conflict, qualitative job overload data, qualitative job overload person, qualitative job overload physical, quantitative job overload data, quantitative job overload person, quantitative job overload physical. A sample item is “How often does your job require you to work very fast?” For entire item set refer to appendix I.

ROLE CONFLICT. Participants were asked to sort a 6-item role conflict scale developed by Bowling et al. (2017). Participants responded by placing the items in one of the provided 9 boxes, workload, job uncertainty, job conflict, qualitative job overload data, qualitative job overload person, qualitative job overload physical, quantitative job overload data, quantitative job overload person, quantitative job overload physical. A sample item is “I have to deal with competing demands at work.” For entire item set refer to appendix N.

ROLE AMBIGUITY. Participants were asked to sort a 6-item role ambiguity scale developed by Bowling et al. (2017). Participants responded by placing the items in one of the provided 9 boxes, workload, job uncertainty, job conflict, qualitative job overload data, qualitative job overload person, qualitative job overload physical, quantitative job overload data, quantitative job overload person, quantitative job overload physical. A sample item is “I am not sure what is expected of me at work.” For entire item set refer to appendix O.

BEEHR ROLE OVERLOAD. Participants were asked to sort a 3-item role overload scale developed by Beehr et al. (1976). Participants responded by placing the items in one of the provided 9 boxes, workload, job uncertainty, job conflict, qualitative job overload data, qualitative job overload person, qualitative job overload physical, quantitative job overload data, quantitative job overload person, quantitative job overload

physical. A sample item is “I am given enough time to do what is expected of me on my job.” For entire item set refer to Appendix J.

THIAGARAJAN ROLE OVERLOAD. Participants were asked to sort a 6-item role overload scale developed by Thiagarajan et al. (2006). Participants responded by placing the items in one of the provided 9 boxes, workload, job uncertainty, job conflict, qualitative job overload data, qualitative job overload person, qualitative job overload physical, quantitative job overload data, quantitative job overload person, quantitative job overload physical. A sample item is “The demands of my work interfere with my home and family life.” For entire item set refer to Appendix K.

DEMOGRAPHICS. I measured demographics with 4 separate multiple-choice items and 4 open ended. I measured demographics with questions asking about income, education level, ethnicity, age, sex, average hours worked per week, job title, and fluency in English. Participants responded by picking one of the provided choices for 4 of the questions. For the remaining question participants responded typing the answer in the provided space. For entire item set refer to Appendix T.

ANALYSIS

I used the data from this sorting task to compute two statistics described by Anderson and Gerbing (1991). P_{SA} which is the proportion of judges who assign a given item to its intended construct and C_{SV} which is the extent to which judges assigned a given item to its intended construct more than to any other unintended construct. While there are no strict defined criteria for acceptable P_{SA} and C_{SV} values, one would expect that chance alone would result in P_{SA} and C_{SV} values of .111 since participants are expected to sort each item into one of nine construct categories. It is important that any

criterion values be higher than these chance values, which is why I will follow the guidelines presented in Colquitt et al. (2019). However, these constructs are historically heavily confounded with each other, therefore I believe we should base the interpretation criterion values on two parts, first the guidelines for strongly correlated scales from Colquitt et al. (2019) and the values should be set at the average of the old role overload scales for both P^{SA} and C_{SV}. This average value is .13 for P^{SA} and .00 for $C_{SV,}$ the value put forth from Colquitt et al., 2019 suggested at least .24 for P^{SA} and .01 for C_{SV} to demonstrate at least weak to moderate proof when examining strongly orbiting scales. These guidelines are less stringent than typical older guidelines as they recognize the fact that participants will be less likely to understand the nuance between certain similar constructs. Additionally, they are based on the author's recommendations gathered from examining numerous other studies that used substantive validity as a validation procedure.

RESULTS

In this stage of item reduction for the preliminary version of the total role overload scale I assessed the items with a panel of 18 judges, on Amazon's MTurk platform. Items were sorted by judges, into nine different categories items with values of .13 or above for PSA were retained. Only one item in the dataset did not meet this criterion, it however was retained as it was near .13 (.11) and was kept retaining parity between the scales as it was an anchoring item. Using these criteria, I created a 22-item role overload scale with 7 dimensions consisting of qualitative data, quantitative data, qualitative people, quantitative people, qualitative things, quantitative, things, and family role overload.

The top half of Table 6 reports results for the new role overload items. As shown in the table, the mean PSA score of all the new role overload items (PSA = .35) was significantly

higher than the mean PSA score of the both the Beehr et al. and Thiagarajan et al. role overload items (PSA = .15, T=6, df=17, p<.001, d =2.04; PSA = .11, T= 8.4, df=17, p<.001, d =2.85). Similarly, the mean CSV score of the new role overload items (CSV = .10) was higher than the mean CSV score of both the Beehr et al. and Thiagarajan et al. role overload items (CSV = -.35, t=8.6, df=17, p<.001, d =2.61; CSV = -.3, t=5.4, df=17, p<.001, d =1.74;). Based on prior methodology, a Welch *t*-test was performed were the score for each item represented the sample (Anderson & Gerbing, 1991). These differences are especially important as it demonstrates how the new role overload scale is more accurately differentiated from constructs that role overload has historically been confused with. In addition, these results show moderate to weak support for substantive validity for the items as a whole base on guidelines from Colquitt et al. (2019). For results of all scales in the study refer to bottom half of Table 6. Having supported the improved substantive validity of the new role overload scale, the remaining study was performed to examine the construct validity of the scale.

STUDY 3: CONSTRUCT VALIDATION STUDY

NOMOLOGICAL NETWORK

CONSTRUCT VALIDATION

At its foundation, construct validity concerns the degree to which a measure captures its intended theoretical construct (Cronbach & Meehl, 1955). One method of establishing construct validity is through establishing nomological validity, which is based on evidence that measures of a construct exhibit predictable relationships with other constructs, which themselves are based on relevant theory (Cronbach & Meehl, 1955). Nomological validity entails evaluating a measure within broader theory, to describe causes, effects, and correlates of the construct in addition to how they relate to one another (Cronbach & Meehl, 1955). Thus, I hope to establish the construct validity of my new measure, total role overload, by establishing a unique nomological network (refer to Table 1) that will demonstrate the construct validity of each dimension.

METHOD

PARTICIPANTS AND DESIGN

Participants in Study 3 were 400 full time employed individuals who were recruited through Amazon's Mechanical Turk platform. I defined full time employment as at least 30 hours per week for at least the past 6 months. I also screened participants based on country of employment, meaning they must live in the U.S. and I stipulated that they must speak English as their primary language. I screened based on this to eliminate

confounding variables that may affect a person's responses. Also, to ensure that quality data was collected, I stipulated that the worker had to have a 95% acceptance rate on their tasks. Additionally, there were numerous instructed response questions throughout the survey to ensure quality data, if participants missed 1 or more, they were removed from the sample. Based on these parameters 48 participants were removed for failing the careless responding question, 40 for not being full time workers, and 7 for failing to respond to the entire survey, in total 305 participants remained for examination. These participants were compensated $1 for their participation for completing the online questionnaire. I collected the data by asking the Mechanical Turk users to complete an online packet of questionnaires. This was done because datasets collected through commercial online panel data (OPD; e.g., Mechanical Turk) show similar psychometric properties and produce criterion validities similar to datasets collected from more traditional ways (e.g., in-person surveys; Walter, Seibert, Goering, & O'Boyle, 2019). There were 155 male participants and 150 female participants. The participants had a mean age of 41.3 with an SD of 11.2. The participants had an average tenure of 7.8 Years (SD= 6.5) at their current jobs and worked an average of 41.05 hours (SD = 2 hours) per week. Sample job titles included "Nurse,"" Site Engineer," "Registered Jeweler," and "Graphic Design." The median income was $77,970 per year (SD= $44,028). 81% of the participants were Caucasian, 3% were Hispanic, 5% were Asian, 8% were African American, 1% were American Indian and .5% were pacific islander. Participants spanned different levels of academic backgrounds: High School (5%), Associate (10%), Bachelor (50%), Masters (21%), PhD (3%), and some college but no degree (12%). Additionally, 40% of participants identified as the primary caregiver of young children.

MEASURES

MEASURE OF INTEREST

DIAGNOSTIC TOTAL ROLE OVERLOAD. I measured total role overload with the original Twenty-Two item scale, and an additional 6 items recommended by a committee member, which were designed to just directly ask the participants their level of role overload, these items made up 7 separate dimensions (e.g., qualitative data, quantitative data, qualitative people, quantitative people, quantitative things, qualitative things, and family), developed by the author. Participants responded using a 7-point scale scored from 1 = *Strongly Disagree* to 7 = *Strongly Agree*. Twenty-two of the items were a Likert-like scale and the remaining 6 chose a description from a set of 7 sentences to respond to the question. A sample item for qualitative data is (The intensity of thinking required by my job is more than I can handle.), quantitative data is (The amount of thinking required by my job is more than I can handle.), qualitative people is (The intensity of social interaction required by my job is difficult for me to cope with.), quantitative people is (The amount of social interaction required by my job is too much for me.), qualitative things is (The intensity of physical action required by my job is outside of my comfort zone.), quantitative things is (The amount of physical action required by my job is too great), family is (I never seem to have enough time to get all my family work done.) All Cronbach's α were greater than .70, the specific reliabilities are as follows, qualitative data is .88, quantitative data is .88, qualitative people is .88, quantitative people is 87., qualitative things is .89, quantitative things is .90, family is .90. The average scores are as follows; qualitative data is 5 (SD=1.2), quantitative data is 5 (SD=1.2), qualitative people is 5 (SD=1.3), quantitative people is 5 (SD=1.2), qualitative

things is 5.4 (SD=1.2), quantitative things is 5.4 (SD=1.2), family is 4.7 (SD=1.6). For the entire item set refer to Appendices AA, AB, AC, AD

MEASURES RELATED TO ALL DIMENSIONS

QUANTITATIVE WORKLOAD. I measured quantitative workload with a 5-item scale developed by Spector and Jex (1998). Participants responded using a 5-point scale scored from 1= *less than once per month or never* to 5= *several times per day*. A sample item is "How often does your job require you to work very fast?". The average score of participants on this measure was 3 (SD = 1). A higher score on this scale indicates that an employee more frequently is expected to work hard and fast. This measure yielded an acceptable Cronbach's α of .86. For entire item set refer to appendix I.

BEEHR ROLE OVERLOAD. An additional way I measured role overload was a 3-item scale developed by Beehr et al. (1976). Participants responded using a 7-point scale scored from 1 = *Strongly Disagree* to 7 = *Strongly Agree*. A sample item is "I am given enough time to do what is expected of me on my job." The average score of participants on this measure was 4.5 (SD = 1.3). A higher score on this scale indicates that an employee feels they are experiencing higher role overload. This measure yielded an acceptable Cronbach's α of .71. For entire item set refer to appendix J.

THIAGARAJAN ROLE OVERLOAD. An additional way I measured role overload was a 6-item scale developed by Thiagarajan et al. (2006). Participants responded using a 7-point scale scored from 1 = *Strongly Disagree* to 7 = *Strongly Agree*. A sample item is "The demands of my work interfere with my home and family life". The average score of participants on this measure was 4.4 (SD = 1.4). A higher score on

this scale indicates that an employee feels they are experiencing higher role overload. This measure yielded an acceptable Cronbach's α of .91. For entire item set refer to appendix K.

ROLE CONFLICT. I measured role conflict with a 6-item scale developed by Bowling et al. (2017). Participants responded using a 7-point scale scored from 1 = *Strongly Disagree* to 7 = *Strongly Agree*. A sample item is "I have to deal with competing demands at work." The average score of participants on this measure was 4.3 (SD = 1.3). A higher score on this scale indicates that a person is experiencing higher levels of role conflict. This measure yielded an acceptable Cronbach's α of .85. For entire item set refer to appendix N.

ROLE AMBIGUITY. I measured role ambiguity with a 6-item scale developed by Bowling et al. (2017). Participants responded using a 7-point scale scored from 1 = *Strongly Disagree* to 7 = *Strongly Agree*. A sample item is "I am not sure what is expected of me at work". The average score of participants on this measure was 5.3 (SD = 1.3). A higher score on this scale indicates that a person is experiencing higher levels of role ambiguity. This measure yielded an acceptable Cronbach's α of .89. For entire item set refer to appendix O.

GLOBAL JOB SATISFACTION. I measured global job satisfaction with a 3-item scale developed by Cammann et al. (1979). Participants responded using a 7-point scale scored from 1 = *Strongly Disagree* to 7 = *Strongly Agree*. A sample item is "All in all, I am satisfied with my job". The average score of participants on this measure was 2.8 (SD = 1.5). A higher score on this scale indicates that an employee has a higher level

of job satisfaction. This measure yielded an acceptable Cronbach's α of .89. For entire item set refer to appendix P.

OBJECTIVE O*NET DATA PEOPLE THINGS. I measured the objective levels of "data people things" for every participants' job in a multi-step process. First, participants were asked specifically what their job title was at work. These were then matched with job titles and descriptions on O*Net, only participants whose job title directly match one on O*Net were accepted, this reduced the sample size to 119 participants. Next, each job's top 10 work activities were recorded, then each defined as either data, people, or things. This was done by matching the 4 elements of O*NET work activities to their respective category. The following are classification of the elements of work activities on O*Net, information input and mental processes were classified as data, interacting with others was classified as people, and work output as classified as things (refer to appendix AH for entire classification matrix and definitions). Finally, these activities were tallied up and resulted in a score from 0-10 for each dimension, for similar approaches see (Jeanneret & Strong, 2003; Liu et al. 2005; Zhang & Snizek, 2003). The average score on the data dimension of the jobs were 5.86 (SD = 1.77). The average score on the people dimension of the jobs were 3.54 (SD = 1.72). The average score on the thing dimension of the jobs were .6 (SD = 1.1).

MEASURES PRIMARILY RELATED TO DATA DIMENSION

JOB COMPLEXITY. I measured job complexity, with a 4-item scale developed by Morgeson and Humphrey (2006). Participants responded using a 7-point scale scored from 1 = *Strongly Disagree* to 7 = *Strongly Agree.* A sample item is "My job requires that I only do one task or activity at a time." The average score of participants on this

measure was 3.4 (SD = 1.6). This measure yielded an acceptable Cronbach's α of .91. A higher score on this scale indicated a participant perceives their job as complex. For entire item set refer to appendix A.

INFORMATION PROCESSING. I measured information processing, with a 4-item scale developed by Morgeson and Humphrey (2006). Participants responded using a 7-point scale scored from 1 = *Strongly Disagree* to 7 = *Strongly Agree*. A sample item is "My job requires me to monitor a great deal of information." The average score of participants on this measure was 2.7 (SD = 1.3). This measure yielded an acceptable Cronbach's α of .90. A higher score on this scale indicated a participant's job had a higher level of information processing. For entire item set refer to appendix B.

PROBLEM SOLVING. I measured problem solving, with a 4-item scale developed by Morgeson and Humphrey (2006). Participants responded using a 7-point scale scored from 1 = *Strongly Disagree* to 7 = *Strongly Agree*. A sample item is "My job involves solving problems that have no obvious correct answer." The average score of participants on this measure was 3.3 (SD = 1.3). This measure yielded an acceptable Cronbach's α of .82. A higher score on this scale indicated a participant's job involved more problem solving. For entire item set refer to appendix C.

MEASURES PRIMARILY RELATED TO PEOPLE DIMENSION

SOCIAL SUPPORT. To measure the social support that an employee received from both coworkers and supervisor, I used an 18- item scale, consisting of two 9 item dimensions (e.g., coworkers and supervisor). This scale was developed by Eschleman, Charlton, Ching, Hale, and Michel (2020). Participants responded using a 7-point scale scored from 1 = *Strongly Disagree* to 7 = *Strongly Agree*. Sample items for each

dimension are, “My coworkers deeply understand my perspective” and “My supervisors are genuine when communicating with me.” The average score of participants on each respective measure was 2.9 (SD = 1.3), 2.8 (SD = 1.1). A higher score on this scale indicated that an employee receives more social support from his/her coworkers or supervisors. The social support-coworker and social support-supervisors each respectively yielded a Cronbach’s α of .96 and .94. For entire item set refer to appendix D.

WORKPLACE CONFLICT I measured workplace conflict at work with a 4-item scale developed by Spector and Jex (1998). Participants responded using a 5-point scale scored from 1= *less than once per month or never* to 5= *several times per day.* A sample item is “How often do you get into arguments with others at work?”. The average score of participants on this measure was 1.4 (SD = .77). A higher score on this scale indicated that an employee more frequently participates in interpersonal conflict at work. This measure yielded an acceptable Cronbach’s α of .89. For entire item set refer to appendix E.

INTERACTION OUTSIDE ORGANIZATION. I measured interaction outside organization, using a 4-item scale developed by Morgeson and Humphrey (2006). Participants responded using a 7-point scale scored from 1 = *Strongly Disagree* to 7 = *Strongly Agree*. A sample item is “My job requires spending a great deal of time with people outside my organization.” The average score of participants on this measure was 3.8 (SD = 1.8). This measure yielded an acceptable Cronbach’s α of .95. A higher score on this scale indicated a participant interacted with people outside their organization more often. For entire item set refer to appendix F.

MEASURES PRIMARILY RELATED TO THINGS DIMENSION

PHYSICAL SELF-EFFICACY. I measured physical self-efficacy, with a 10-item scale developed by Ryckman et al. (1982). Participants responded using a 7-point scale scored from 1 = *Strongly Disagree* to 7 = *Strongly Agree*. A sample item is "I am not agile and graceful". The average score of participants on this measure was 4.4 (SD= 1.1). This measure yielded an acceptable Cronbach's α of .87. A higher score on this scale indicated a participant felt they were less physically self-effective. For entire item set refer to appendix G.

PHYSICAL DEMANDS. I measured physical demands, with a 3-item scale developed by Morgeson and Humphrey (2006). Participants responded using a 7- deal of muscular endurance." The average score of participants on this measure was 5.3 (SD = 1.7). This measure yielded an acceptable Cronbach's α of .97. A higher score on this scale indicated a participant's job had a higher level of physical demands. For entire item set refer to appendix F.

MEASURES PRIMARILY RELATED TO FAMILY DIMENSION

WORK-FAMILY CONFLICT. I measured work-family conflict with a 5-item scale developed by Netemeyer et al. (1996). Participants responded using a 7-point scale scored from 1 = *Strongly Disagree* to 7 = *Strongly Agree*. A sample item is "The demands of my work interfere with my home and family life." The average score of participants on this measure was 4.7 (SD = 1.7). A higher score on this scale indicates that a participant feels that their work interferes with their family. This measure yielded an acceptable Cronbach's α of .97. For entire item set refer to appendix L.

FAMILY-WORK CONFLICT. I measured family-work conflict with a 5-item scale developed by Netemeyer et al. (1996). Participants responded using a 7-point scale scored from 1 = *Strongly Disagree* to 7 = *Strongly Agree*. A sample item is "The demands of my family or spouse/ partner interfere with work-related activities." The average score of participants on this measure was 5.3 (SD = 1.5). A higher score on this scale indicates that a participant feels that their family interferes with their work. This measure yielded an acceptable Cronbach's α of .97. For entire item set refer to appendix M.

COMMON METHOD VARIANCE CONTROL MEASURES

OPENNESS TO EXPERIENCE. I measured openness to experience with the average of 10 items from the *International Personality Item Pool (IPIP*; n.d.; Goldberg et al., 2006). Participants responded using a 7-point scale scored from 1 = *Strongly Disagree* to 7 = *Strongly Agree*. A sample item is "I have a vivid imagination." The average score of participants on this measure was 3 (SD = 1.1). This measure yielded an acceptable Cronbach's α of .81. A higher score on this scale indicated a participant has a high level of openness to experience. For entire item set refer to appendix R.

SELF-MONITORING. I measured self-monitoring with a 10-item scale developed by Snyder. (1974). Participants responded using a 7-point scale scored from 1 = *Strongly Disagree* to 7 = *Strongly Agree*. A sample item is "Would make a good actor". The average score of participants on this measure was 5 (SD = 1.2). A higher score on this scale indicates that a person would possess higher levels of self-monitoring. This measure yielded an acceptable Cronbach's α of .89. For entire item set refer to appendix Q.

SURVEY INFORMATION MEASURES

DEMOGRAPHICS**.** I measured demographics with 12 separate multiple-choice items and 3 open ended. I measured demographics with questions asking about income, family size, education level, ethnicity, age, sex, employment status, employees working at establishment, industry employed within, average hours worked per week, how many young children they had, where they the primary care giver to these children, job title, and fluency in English. Participants responded by picking one of the provided choices for 10 of the questions. For the remaining question participants responded typing the answer in the provided space. For entire item set refer to Appendix Z.

CARELESS RESPONDING. I measured careless responding using a set of 3 items like the approach that Beach (1989) called a Random Response Scale (RRS). Unlike other items in the survey, these items had a clear correct response, and incorrect response suggest "the possibility of random responding, misreading of questions, or lack of effort in the task" (Beach, 1989, p. 102). Three RRs items were embedded into the survey, one on each page. All the items were worded to instruct participants to choose a specific answer such as 'strongly agree'. An example item from this measure is "When you get to this item, please select 'strongly agree'." Item scores were converted to dichotomous measures, either "hit" or "miss" based on the correct answer to the question. These items were then summed for a score ranging from 0 to 4. Participants with a score of 1 or higher on this scale had their responses omitted from the data set.

ANALYSIS

CONSTRUCT VALIDITY. To assess whether the item reduction process causes conceptual drift, where the variable is no longer measuring what it was intended to due to

data driven reduction method, I assessed the nomological network of the diagnostic total role overload scale. I compared the theorized relationships based on previous literature with what was found with our new total role overload measure. Based on the nomological network (see Table 3) it was predicted that (a) the old role overload scales would demonstrate moderate to strongly positive correlations to each of the total role overload subscales, (b) that specific external variables would demonstrate a specific pattern of relations to each dimensions of the total role overload subscales (see Tables 3 and 4), and (c) that openness to experience and self-monitoring would be unrelated to each of the total role overload subscales to examine discriminant validity and common method variance (Campbell & Fiske, 1959).

RESULTS

In Study 3, I examined the construct validity of the 28-item total role overload scale constructed in the previous two studies. Six new items were inserted to our 22-item total role overload scale, based on the recommendation of a committee member. These items directly asked the participant the questions and gave them 7 responses, varying from strongly positive to strongly negative, to choose from an example is: (The amount of social interaction require by my job is not meeting my needs).

Before looking at the construct validity of the scale I must briefly look at possible group differences in my sample, based on comments from a committee member, it is believed that participants who identified as the primary caregivers to young children would differ in survey responses compared to the group. This came about due to the timing of the survey during the covid-19 pandemic and subsequent increased demands on primary caregivers. It was found that there were significant differences between these

groups (F = 2.24, DF = 279, P < .001, η^2 = .167). However, even though there were differences found between the groups, both were still included as it would not be representative of the population and lower external validity.

The results of Study 3 can be found in Table 4, where the observed relationships between role overload and other constructs are compared to the theorized relationships (Table 3). Refer to Table 8 for the entire correlation matrix. The differing relationships between the theorized dimensions of role overload, provide evidence for the uniqueness of these dimensions. Further evidence of this is that majority of correlations that were predicted a priori occurred at the correct strength and (shaded cells in Table 4 that are not bolded or italicized) were statistically significant ($p \leq .05$). Additionally, in a similar manner the observed strength of correlations in shaded regions were much higher than the unshaded regions (r = .30, r = .13 respectively). This assertion holds true when looking at each individual scale as well, with the smallest difference, which however is still a large difference observed difference, occurring on the data dimension of the role overload scale (r=.26, r= .15). These results provide evidence for construct validity of the new role overload scale.

However, there were a few violations of varying strength, these were divided into two categories, serious (bolded and italicized in Table 4) which represents a prediction which when violated has limited ability to be explained and is central to the integrity of the nomological network and weak (bolded in Table 4) which represents a violation of a prediction that is not central and is able to be explained based on data irregularities or theory. One such weak violation was number of hours worked per week. This construct was predicted to have a weak relationship with all facets yet demonstrated no relation.

The reason this violation is categorized as weak is due to data irregularities, there is a very low amount variability in the work hours participants reported, with over 90% of participants reporting 40 hours with a standard deviation of only 2. Therefore, even though theoretically this construct would be central to our nomological network due to our sample bias we could not test this relationship and subsequently it should not be interpreted as evidence against construct validity.

However, there were strong violations that did occur and could possibly be detrimental to the construct validity of our role overload scale. Most notably, the two common method variance indicators, self-monitoring and openness to experience, which were included as they were expected to have no relationship with any of the dimensions of role overload, had significant relationships with all dimensions of role overload, albeit in opposite directions. Self-monitoring had correlations ranging from (r = .37 to r = .12) and openness to experience had correlations from (r = -.29 to r = -.22). However, there are numerous non-significant correlations in the dataset, nearly half of constructs measured demonstrated non-significant correlations with these two constructs, suggesting that these results might not be due to common method variance (refer to Table 8). Alternatively, it is possible that these constructs are related to role overload and that our a priori theory was in error, in support of this is the relationships with old role overload measures, which occurred in the same directions but at a less magnitude. An additional study would need to be done to see if this explanation holds and to see if the results would be replicated to confirm that no common method variance skewed the current results.

In summary, majority of correlations that were predicted a priori occurred (shaded cells in Table 4 that were not italicized and bolded) were statistically significant ($p \leq .05$) and at the correct level predicted. A few exceptions did occur and were evaluated above. However even with these exceptions taken as a whole, the results of Study 3 provide evidence of construct validity for each of the total role overload dimensions. In addition, it provides support that conceptual drift did not occur in our item reduction. Finally, it demonstrates that while some constructs are strongly correlated with role overload (e.g., WFC, role conflict) role overload is a different construct and occupies a different position in the nomological network.

DISCUSSION

Role overload is an important construct in the occupational health literature, but due to numerous measurement and conceptual issues, it has become relatively understudied. People who report high levels of role overload have an increased risk of several negative outcomes, e.g., anxiety, fatigue, burnout, and physical illness. Along with negative effects, role overload has been increasing in prevalence in the workplace (e.g., Duxbury & Higgins, 2005). Fortunately, role overload is actionable via organizational intervention. Yet, it seems that it currently is being neglected. As stated above, role overload has some clear measurement issues in the current literature, numerous measures are unvalidated or unreliable. In fact, role overload frequently displays inconsistent relationships to numerous other measures of performance and job attitudes across a multitude of studies (Bellizzi & Hite, 1986; Kaufman et al., 1991). In addition, role overload is conceptualized differently in numerous studies, most often being conflated with workload, due to the ambiguous nature of current definitions of role overload. Both issues serve to further increase the obstacles researchers face when investigating role overload, hence the lack of recent studies. Thus, the purpose of my study was to develop a new measure of total role overload to improve upon current measures in psychometric properties and practicality along with providing clearer definitions of role overload.

In support of this study's purpose, I constructed a new total role overload measure with seven dimensions total, consisting of family role overload, and qualitative and quantitative role overload crossed with the "data people and things" construct each dimension consists of 4 items. In addition, I provided clear actionable definitions of these

constructs, and demonstrated that they were distinct from workload, a construct they are often conflated with. Finally, due to the construction of the total role overload scale and combination of multiple dimensions of role overload into one scale, organizations have a reliable multifaceted diagnostic measure, which did not previously exist. As previously stated, current measures possess inadequate psychometric properties, in addition current measures generally focus on only assessing quantitative role overload. This is a less useful measure of role overload for intervention than total role overload due to it only capturing one facet, when role overload has three distinct facets. This deficiency is best illustrated by examining a person who demonstrates high family role overload and moderately high quantitative role overload. If one used current measures of role overload it would say this individual is overloaded, which in our case is true, but the organization would use the wrong intervention. The best course of action would be to provide benefits that allow the individual to better balance their family life, such as flex time or telecommuting. In contrast, current measures say this person has too much work and would reduce the amount of work instead of addressing the underlying issue.

IMPLICATIONS

Briefly, the implications of a psychometrically improved scale designed with diagnostic ability can help advance role stressor researcher. The scale could provide a foundation upon which debates about the nature of the relationships between role overload and other constructs. For example, I mentioned previously that role overload has a non-significant relationship with performance when conceptually, it is expected that this would be a significant relationship (Gilboa et al., 2008). Providing a psychometrically validated and more reliable measure helps clarify if the theory or the

findings are correct. Much research about role overload was also done before technology was incorporated heavily into everyday life. Having a psychometrically improved measure allows for researchers to examine the effects of technology with much more certainty. Finally, the addition of diagnostic ability to the role overload scale is important as it allows for organizations to identify the cause of their worker's role overload is and create a tailored solution, which is in stark contrast to prior scales which treated all forms of role overload the same.

FUTURE RESEARCH & ADDRESSING LIMITATIONS

First, as mentioned previously, the current findings have important theoretical and practical implications that can guide future research. As demonstrated, my results suggest that total role overload consists of three separate dimensions, which implies that the current literature should start examining the effects of qualitative and family role overload more in depth.

Second, having a measure which accurately assesses these three separate dimensions of role overload allows for researchers to identify how a person is overload. Due to being able to understand the dimensions where a person is overloaded, researchers should be able to focus on the effectiveness of different types of organizational interventions. Finally, most of the role overload literature was done prior to 1990, therefore little is known about the impacts of recent workplace developments. Therefore, I suggest that the impact of technology on role overload is examined by researchers. The workplace is changing at an unprecedented pace and current workers are expected to continually learn new skills and tackle an ever-increasing amount of work. Every day, technology is

continuing to blur the lines between work and family life. These changes in role overload induced by technology need studied to understand how best to address them.

I note three limitations in this research that could be addressed by future research. First, each study used cross-sectional data. Which seems appropriate for validating scales and for the situations the measure would most likely be used in. However, due to this I could not determine causal relationships, I encourage future longitudinal studies to incorporate this new role overload scale. Second, all studies exclusively used self-report measures, which has the possibility of introducing common-method variance to our results. I observed that some correlations between role overload and indicator variables were non-significant (e.g., openness to experience) that provided evidence (e.g., Multiple non-significant correlations) against common method variance, but I also observed some evidence for common method variance, such as self-monitoring being significantly correlated with our role overload dimensions, which demonstrated common method variance may have occurred (refer to Table 8). However, self-reports are most likely the best method of measuring the traits assessed in this research. This is due to most measures of interest in our study being internal psychological states, such as perceptions of workload or work support. Furthermore, there is a possibility that the constructs chosen to be CMV indicators were in fact related to role overload and the a-priori reasons for choosing them were faulty. Future research could further examine this relationship and incorporate non-self-report methods to address the possibility of common method variance. Additionally, I did not assess the current scale across different types of data sources, instead relying on MTurk data exclusively. This is due to current time constraints with plans to cross validate it with samples of working individuals later.

CONCLUSION

The purpose of my research was to construct a new and improved measure of role overload. Other researchers have shown that current measures of role overload are inadequate for current applications (e.g., Thiagarajan et al, 2006). In addition, numerous researchers misconceptualized role overload, usually conflating it with workload or role conflict (e.g., Guelzow et al., 1991; Komarovsky, 1976). As a result, I conducted the current research to develop and validate new role overload measures and I proposed clearer definitions for the role overload construct. In addition, because of this improved conceptualization, the diagnostic ability of the measure has been increased. Future research should focus on using the new scale to either examine new trends emerging due to changes in the workplace or applying the total role overload scale as a diagnostic measure. Across these studies, I generally found support for the reliability and validity of the new scales. Thus, I recommend the total role overload scale be used in future role stress research and consulting, due to the significantly improved psychometric properties along with an increase in diagnostic ability.

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TABLE 1. DEFINITIONS OF ROLE OVERLOAD DIMENSIONS

Dimension	Definition
Total Role Overload	An individual's perception that the collective demands of his/her multiple roles exceed available time, energy, and ability, making the individual unable to adequately fulfill the requirements of his/her various roles to the satisfaction of self or others.
Quantitative	The perceived conflict between the demand of the job as an organizational citizen and the time availability for meeting the job demand
Qualitative	The mismatch between the demands of the job and the individual's knowledge, skill, and aptitude
Family	The conflict between the demands of family roles (Parent, spouse, caregiver, friend) and the time availability for meeting the family role demands

TABLE 2. DEFINITIONS OF DATA PEOPLE THINGS

Dimension	Worker Functions
Data	Information, knowledge, and conceptions, related to data, people, or things, obtained by observation, investigation, interpretation, visualization, and mental creation. Data are intangible and include numbers, words, symbols, ideas, concepts, and oral verbalization.
People	Interactions with human beings, mentoring, instructing, supervising, diverting, persuading, speaking-signaling, Serving, taking instructions, or helping.
Things	Inanimate objects as distinguished from human beings, substances or materials and machines, tools, equipment, work aids, and products. A thing is tangible and has shape, form, and other physical characteristics.

TABLE 3. HYPOTHESIZED NOMOLOGICAL NETWORK OF ROLE OVERLOAD

Scale	Hypothesized Relationship			
	Data	People	Things	Family
Job Complexity	+			
Problem Solving	+			
Objective Data (O*Net)	+			
Information Processing	+			
Social Support Coworkers	-	-		-
Social Support Supervisor	-	-		-
Workplace Conflict	+	+	+	+
Objective People (O*Net)		+		
Interaction Outside Organization		+	+	
Physical Demands	+	+	+	
Physical Self-Efficacy			-	
Physical Injuries	+	+	+	
Objective Things (O*Net)			+	
Work Family Conflict	+	+	+	+
Family Work Conflict	+	+	+	+
Workload	+	+	+	+
Hours Worked Per Week	+	+	+	+
Beehr Role Overload Scale	+	+	+	+
Reilly Role Overload Scale	+	+	+	+
Job Satisfaction	-	-	-	-
Role Conflict	+	+	+	+
Role Ambiguity	+	+	+	+
Self-Monitoring				
Openness to Experience				

+ positive relationship is hypothesized, − negative relationship is hypothesized, blank a non-significant relationship is hypothesized The background color represents the hypothesized prediction strength blank represents a non-significant relationship, represents a strong relationship, represents a moderate relationship, represents a weak relationship.

TABLE 4. OBSERVED NOMOLOGICAL NETWORK OF ROLE OVERLOAD

Scale	Hypothesized Relationship			
	Data	People	Things	Family
Job Complexity	***-.21***	-.22	-.45**	-.01
Problem Solving	**.07**	.06	.06	.07
Objective Data (O*Net)	**.04**	-.18	-.04	-.11
Information Processing	**.07**	.06	-.11	.07
Social Support Coworkers	-.17**	-.28**	.01	-.2**
Social Support Supervisor	-.17**	-.22**	-.05	-.23**
Workplace Conflict	.44**	.45**	.51**	.36**
Objective People (O*Net)	0	.20**	**-.15****	**.22****
Interaction Outside Organization	.08	.20**	.17**	.09
Physical Demands	.23**	.24**	.54**	.07
Physical Self-Efficacy	**.12***	**.22****	***.03***	.21**
Physical Injuries	.21**	.19**	.30**	.09
Objective Things (O*Net)	-.06	-.03	.32**	-.13
Work Family Conflict	.43**	.40**	.35**	.62**
Family Work Conflict	.55**	.46**	.5**	.58**
Workload	.16**	**.07**	**.05**	.21**
Hours Worked Per Week	**-.07**	**-.05**	**-.1**	**-.02**
Beehr Role Overload Scale	.46**	.39**	.28**	.51**
Reilly Role Overload Scale	.51**	.48**	.34**	.62**
Job Satisfaction	-.29**	-.38**	-.18**	-.30**
Role Conflict	.28**	.30**	**.08**	.34**
Role Ambiguity	.39**	.40**	.26**	.41**
Self-Monitoring	***.33*****	***.24*****	***.37*****	***.12****
Openness to Experience	***-.29*****	***-.26*****	***-.21*****	***-.22*****

* p < .05, ** p < .01 **bolded and italic text** represents a prediction that demonstrates a violation of a prediction that is central to the nomological network, *italic* text represents a violation of a prediction that is not central or is able to be easily explained why it occurred. The background color represents the previously hypothesized prediction strength blank represents a non-significant relationship, ▉represents a strong relationship,▉ represents a moderate relationship,▉ represents a weak relationship

TABLE 5. ITEM ANALYSIS OF NEW ROLE OVERLOAD SCALE (STUDY 1).

Item	ITC
Quantitative role overload data scale	
The amount of thinking required by my job is overwhelming for me. *	0.82
The amount of thinking required by my job is too much for me. *	0.87
The amount of thinking required by my job is more than I can handle. *	0.83
The amount of thinking required by my job is greater than my ability level.	0.87
The amount of thinking required by my job is too difficult for me.	0.78
The amount of thinking required by my job is difficult for me to cope with.	0.82
The amount of thinking required by my job is beyond my capabilities.	0.83
The amount of thinking required by my job is too great.	0.81
The amount of thinking required by my job is outside of my comfort zone.	0.79
The amount of thinking required by my job is excessive.	0.78
The amount of thinking required by my job is manageable. (R)	-0.05
The amount of thinking required by my job is reasonable. (R)	0.13
The amount of thinking required by my job is within my capabilities. (R)	0.02
The amount of thinking required by my job is suitable for me. (R)	0.14
The amount of thinking required by my job is at a level I can tolerate. (R)	0.02
Qualitative role overload data scale	
The intensity of thinking required by my job is overwhelming for me. *	0.86
The intensity of thinking required by my job is too much for me. *	0.87
The intensity of thinking required by my job is more than I can handle. *	0.83
The intensity of thinking required by my job is greater than my ability level.	0.85
The intensity of thinking required by my job is too difficult for me.	0.78
The intensity of thinking required by my job is difficult for me to cope with.	0.82
The intensity of thinking required by my job is beyond my capabilities.	0.83
The intensity of thinking required by my job is too great.	0.85
The intensity of thinking required by my job is outside of my comfort zone.	0.81
The intensity of thinking required by my job is excessive.	0.8
The intensity of thinking required by my job is manageable. (R)	0.13
The intensity of thinking required by my job is reasonable. (R)	0.12
The intensity of thinking required by my job is within my capabilities. (R)	-0.03
The intensity of thinking required by my job is suitable for me. (R)	0.14
The intensity of thinking required by my job is at a level I can tolerate. (R)	-.037

Quantitative role overload people scale

The amount of social interaction required by my job is overwhelming for me.	0.84
The amount of social interaction required by my job is too much for me. *	0.83
The amount of social interaction required by my job is more than I can handle.	0.83
The amount of social interaction required by my job is greater than my ability level.	0.81
The amount of social interaction required by my job is too difficult for me. *	0.78
The amount of social interaction required by my job is difficult for me to cope with. *	0.78
The amount of social interaction required by my job is beyond my capabilities.	0.84
The amount of social interaction required by my job is too great.	0.87
The amount of social interaction required by my job is outside of my comfort zone.	0.69
The amount of social interaction required by my job is excessive.	0.77
The amount of social interaction required by my job is manageable. (R)	0.04
The amount of social interaction required by my job is reasonable. (R)	0.13
The amount of social interaction required by my job is within my capabilities. (R)	0.02
The amount of social interaction required by my job is suitable for me. (R)	0.08
The amount of social interaction required by my job is at a level I can tolerate. (R)	0.03

Qualitative role overload people scale

The intensity of social interaction required by my job is overwhelming for me.	0.84
The intensity of social interaction required by my job is too much for me.*	0.84
The intensity of social interaction required by my job is more than I can handle.	0.85
The intensity of social interaction required by my job is greater than my ability level.	0.87
The intensity of social interaction required by my job is too difficult for me.*	0.77
The intensity of social interaction required by my job is difficult for me to cope with.*	0.75
The intensity of social interaction required by my job is beyond my capabilities.	0.85
The intensity of social interaction required by my job is too great.	0.85
The intensity of social interaction required by my job is outside of my comfort zone.	0.76
The intensity of social interaction required by my job is excessive.	0.83
The intensity of social interaction required by my job is manageable. (R)	0.13
The intensity of social interaction required by my job is reasonable. (R)	0.05
The intensity of social interaction required by my job is within my capabilities. (R)	0.03
The intensity of social interaction required by my job is suitable for me. (R)	0.13
The intensity of social interaction required by my job is at a level I can tolerate. (R)	-0.01

Quantitative role overload things scale

The amount of physical action required by my job is overwhelming for me.	0.83
The amount of physical action required by my job is too much for me. *	0.85
The amount of physical action required by my job is more than I can handle.	0.84
The amount of physical action required by my job is greater than my ability level.	0.83
The amount of physical action required by my job is too difficult for me.	0.84
The amount of physical action required by my job is difficult for me to cope with.	0.81
The amount of physical action required by my job is beyond my capabilities.	0.89

The amount of physical action required by my job is too great. *	0.82
The amount of physical action required by my job is outside of my comfort zone. *	0.82
The amount of physical action required by my job is excessive.	0.81
The amount of physical action required by my job is manageable. (R)	0
The amount of physical action required by my job is reasonable. (R)	0.01
The amount of physical action required by my job is within my capabilities. (R)	-0.01
The amount of physical action required by my job is suitable for me. (R)	0.05
The amount of physical action required by my job is at a level I can tolerate. (R)	-0.05
Qualitative role overload things scale	
The intensity of physical action required by my job is overwhelming for me.	0.82
The intensity of physical action required by my job is too much for me. *	0.84
The intensity of physical action required by my job is more than I can handle.	0.86
The intensity of physical action required by my job is greater than my ability level.	0.86
The intensity of physical action required by my job is too difficult for me.	0.79
The intensity of physical action required by my job is difficult for me to cope with.	0.79
The intensity of physical action required by my job is beyond my capabilities.	0.89
The intensity of physical action required by my job is too great. *	0.83
The intensity of physical action required by my job is outside of my comfort zone. *	0.83
The intensity of physical action required by my job is excessive.	0.8
The intensity of physical action required by my job is manageable. (R)	0.03
The intensity of physical action required by my job is reasonable. (R)	0
The intensity of physical action required by my job is within my capabilities. (R)	-0.13
The intensity of physical action required by my job is suitable for me. (R)	0.01
The intensity of physical action required by my job is at a level I can tolerate. (R)	-0.07
Family role overload scale	
I never seem to have enough time to get all my family work done. *	0.9
I have tasks to carry out without enough help from others in my family to complete them. *	0.81
I have too much family related work to do everything well. *	0.89
I have family related tasks to carry out without adequate resources and materials to execute them. *	0.87
I have enough time to get all my family related work done. (R)	0.4
I work on unnecessary family related things.	0.78

Note: (R) indicates reverse-scored item. ITC is item-total correlation. Each item was on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). * indicates retained items.

Table 6. Substantive validity

Item	P_{SA}	C_{SV}
Qualitative role overload data scale		
The intensity of thinking required by my job is overwhelming for me. *	0.39	0.22
The intensity of thinking required by my job is too much for me. *	0.39	0.39
The intensity of thinking required by my job is more than I can handle. *	0.39	0.17
Quantitative role overload data scale		
The amount of thinking required by my job is overwhelming for me. *	0.39	0.11
The amount of thinking required by my job is too much for me. *	0.50	0.33
The amount of thinking required by my job is more than I can handle. *	0.28	0.00
Quantitative role overload people scale		
The intensity of social interaction required by my job is too much for me. *	0.33	0.00
The intensity of social interaction required by my job is too difficult for me. *	0.22	0.00
The intensity of social interaction required by my job is difficult for me to cope with. *	0.17	-0.22
Qualitative role overload people scale		
The amount of social interaction required by my job is too much for me.	0.11	-0.39
The amount of social interaction required by my job is too difficult for me. *	0.17	-0.28
The amount of social interaction required by my job is difficult for me to cope with. *	0.17	-0.33
Quantitative role overload things scale		
The intensity of physical action required by my job is too much for me. *	0.44	0.28
The intensity of physical action required by my job is outside my comfort zone. *	0.44	0.28
The intensity of physical action required by my job is too great. *	0.22	-0.17
Qualitative role overload things scale		
The amount of physical action required by my job is too much for me. *	0.44	0.28
The amount of physical action required by my job is outside my comfort zone. *	0.44	0.11
The amount of physical action required by my job is too great. *	0.56	0.44
Beehr role overload scale		
I am given enough time to do what is expected of me on my job.	0.11	-0.39
The performance standards on my job are too high.	0.28	-0.17
It often seems like I have too much work for one person to do.	0.06	-0.50
Thiagran role overload scale		
I have to do things that I do not Really have the time and energy for.	0.06	-0.39
I need more hours in the day to do all the things that are expected of me.	0.22	-0.22

I cannot ever seem to catch up.	0.17	-0.28
I do not ever seem to have any time for myself.	0.06	-0.50
There are times when I cannot meet everyone's expectations.	0.17	-0.06
I seem to have more commitments to overcome than other parents I know.	0.00	-0.33
Bowling et al. role conflict scale		
In my job, I often feel like different people are “pulling me in different directions”	0.44	0.22
I have to deal with competing demands at work. *	0.50	0.33
My superiors often tell me to do two different things that can’t both be done.	0.44	0.33
The tasks I am assigned at work rarely come into conflict with each other. (R)*	0.56	0.39
The things I am told to do at work rarely come into conflict with each other. (R)*	0.50	0.28
The things I am told to do at work do not conflict with each other. (R)*	0.50	0.28
In my job, I’m seldom placed in a situation where one job duty conflict with other job duties (R)*	0.61	0.44
Bowling et al. role ambiguity scale		
I am not sure what is expected of me at work*	0.72	0.61
The requirements of my job aren’t always clear*	0.67	0.50
I often don’t know what is expected of me at work*	0.56	0.44
I know everything that I am expected to do at work with certainty. (R) *	0.72	0.61
My job duties are clearly defined. (R)	0.44	0.22
I know what I am required to do for every aspect of my job. (R)*	0.56	0.33
Spector workload scale		
How often does your job require you to work very fast? *	0.56	0.33
How often does your job require you to work very hard?	0.44	0.28
How often does your job leave you with little time to get things done?	0.44	0.22
How often is there a great deal to be done? *	0.72	0.61
How often do you have to do more work than you can do well?	0.22	-0.06

Note: $N = 18$. (R) indicates reverse-scored item. P_{SA} is the proportion of substantive agreement. C_{SV} is the substantive-validity coefficient. * indicates an item that has met the criteria

TABLE 7. ROLE OVERLOAD ITEM FACTOR LOADINGS (CFA)

	Latent Factor			
Item	Things	People	Data	Family
The intensity of physical action required by my job is outside of my comfort zone.	0.906			
The amount of physical action required by my job is outside of my comfort zone.	0.859			
The amount of physical action required by my job is too much for me.	0.953			
The intensity of physical action required by my job is too much for me.	0.915			
The amount of physical action required by my job is too great.	0.914			
The intensity of physical action required by my job is too great.	0.915			
The amount of social interaction required by my job is difficult for me to cope with.		0.909		
The intensity of social interaction required by my job is difficult for me to cope with.		0.941		
The intensity of social interaction required by my job is too difficult for me.		0.906		
The amount of social interaction required by my job is too difficult for me.		0.905		
The intensity of social interaction required by my job is too much for me.		0.911		
The amount of social interaction required by my job is too much for me.		0.941		
The amount of thinking required by my job is more than I can handle.			0.912	
The intensity of thinking required by my job is more than I can handle.			0.894	
The amount of thinking required by my job is too much for me.			0.940	
The intensity of thinking required by my job is too much for me.			0.931	
The amount of thinking required by my job is overwhelming for me.			0.917	
The intensity of thinking required by my job is overwhelming for me.			0.918	

I have family related tasks to carry out without adequate resources and materials to execute them.	0.894
I have tasks to carry out without enough help from others in my family to complete them.	0.732
I never seem to have enough time to get all my family work done.	0.916
I have too much family related work to do everything well.	0.777

Note: N=147. Factor loadings standardized. All factor loadings are statistically significant at p <.01

Table 8. Scale Correlation Table (Study 3)

	OData	OPeople	Othings	QD	QP	QT	FAM	QALL	COMP	INFOP	PSOLVE	SSWORK	SSUP	WCONF	IOO	
OData	**n/a**															
OPeople	**-0.8**	**n/a**														
Othings	**-0.36**	**-0.27**	**n/a**													
QD	0.04	0	-0.06	*0.86*												
QP	-0.1	**0.13**	-0.03	**0.63**	*0.86*											
QT	-0.04	**-0.15**	**0.32**	**0.59**	**0.59**	*0.86*										
FAM	-0.11	**0.22**	**-0.13**	**0.5**	**0.46**	**0.36**	*0.9*									
QALL	-0.09	0.1	0	**0.83**	**0.81**	**0.75**	**0.79**	*0.93*								
COMP	**0.18**	**-0.04**	**-0.23**	**-0.21**	**-0.22**	**-0.45**	-0.09	**-0.28**	*0.91*							
INFOP	**0.25**	-0.1	**-0.24**	0.05	0.01	-0.11	0.07	0.02	**0.58**	*0.9*						
PSOLVE	**0.17**	-0.05	**-0.2**	0.07	0.06	0.06	0.04	0.07	**0.34**	**0.56**	*0.82*					
SSWORK	0.07	**-0.14**	0.11	**-0.17**	**-0.28**	0.01	**-0.2**	**-0.21**	-0.07	**0.17**	**0.21**	*0.94*				
SSUP	-0.02	-0.09	**0.17**	**-0.17**	**-0.22**	-0.05	**-0.23**	**-0.22**	0	**0.14**	**0.19**	**0.71**	*0.96*			
WCONF	-0.04	0.06	-0.02	**0.44**	**0.45**	**0.51**	**0.36**	**0.54**	-0.25	-0.1	0.05	**-0.13**	**-0.14**	*0.89*		
IOO	**-0.17**	0.11	0.09	0.08	**0.2**	**0.17**	0.09	**0.16**	-0.03	0.06	**0.18**	**0.11**	0.08	**0.2**	*0.95*	
PSEFF	-0.06	0.08	-0.02	**0.12**	**0.22**	0.03	**0.21**	**0.19**	0.01	0	-0.1	**-0.24**	**-0.24**	0	-0.08	
PDEM	**-0.12**	-0.02	0.25	**0.33**	**0.29**	**0.58**	**0.12**	**0.38**	**-0.4**	**-0.13**	0.08	**0.15**	0.1	**0.41**	**0.22**	
WLOAD	-0.07	**0.13**	-0.07	**0.16**	0.07	0.05	**0.21**	**0.17**	**0.15**	**0.22**	**0.13**	-0.01	-0.08	**0.21**	0.04	
BEEHR	-0.09	**0.17**	**-0.13**	**0.46**	**0.39**	**0.28**	**0.51**	**0.53**	-0.03	0.11	**0.2**	**-0.19**	**-0.26**	**0.37**	0.05	
REILLY	-0.05	**0.13**	**-0.12**	**0.51**	**0.48**	**0.34**	**0.62**	**0.63**	0	**0.18**	**0.18**	**-0.25**	**-0.25**	**0.34**	0.09	
WFC	**-0.15**	**0.19**	-0.06	**0.43**	**0.4**	**0.35**	**0.58**	**0.57**	-0.08	0.1	**0.17**	**-0.15**	**-0.13**	**0.4**	**0.15**	
FWC	-0.06	**0.11**	-0.07	**0.55**	**0.46**	**0.5**	**0.52**	**0.64**	**-0.22**	0.03	**0.12**	-0.11	-0.09	**0.49**	**0.16**	
RCONF	-0.1	**0.17**	-0.11	**0.28**	**0.3**	0.08	**0.34**	**0.33**	**0.17**	**0.22**	**0.23**	**-0.29**	**-0.27**	**0.24**	0.1	
RAMB	**-0.15**	**0.18**	-0.04	**0.39**	**0.4**	**0.26**	**0.41**	**0.47**	-0.06	-0.09	0.1	**-0.39**	**-0.34**	**0.41**	**0.13**	
JSAT	0.06	**-0.13**	0.11	**-0.29**	**-0.38**	**-0.18**	**-0.3**	**-0.36**	**0.18**	**0.21**	**0.18**	**0.57**	**0.62**	**-0.23**	0.05	
SMON	0.06	-0.02	**-0.06**	**0.33**	**0.24**	**0.37**	**0.12**	**0.31**	**-0.19**	0	**0.3**	0.1	**0.12**	**0.41**	**0.18**	
OPEN	**0.2**	**-0.26**	0.1	**-0.29**	**-0.26**	**-0.21**	**-0.22**	**-0.3**	0.1	0.1	**0.14**	**0.14**	**0.12**	**-0.2**	0.01	
INJURY	0	**0.12**	**0.19**	**0.21**	**0.19**	**0.3**	0.09	**0.23**	**-0.19**	0.03	0.06	0.11	0.02	**0.33**	0.06	
WHOUR	0.13	-0.05	**-0.12**	-0.07	-0.05	-0.1	-0.02	-0.1	**0.22**	**0.15**	0.11	0.06	0.07	0.02	**0.14**	

	PSEFF	PDEM	WLOAD	BEEHR	REILLY	WFC	FWC	RCONF	RAMB	JSAT	SMON	OPEN	INJURY	WHOUR
OData														
OPeople														
Othings														
QD														
QP														
QT														
FAM														
QALL														
COMP														
INFOP														
PSOLVE														
SSWORK														
SSUP														
WCONF														
IOO														
PSEFF	*0.87*													
PDEM	**-0.27**	*0.97*												
WLOAD	-0.01	0.1	*0.86*											
BEEHR	0.07	**0.25**	**0.5**	*0.71*										
REILLY	**0.2**	**0.22**	**0.46**	**0.72**	*0.91*									
WFC	0.05	**0.3**	**0.28**	**0.52**	**0.66**	*0.97*								
FWC	0.07	**0.38**	0.08	**0.42**	**0.51**	**0.66**	*0.97*							
RCONF	**0.15**	0.07	**0.41**	**0.55**	**0.55**	**0.43**	**0.23**	*0.85*						
RAMB	**0.21**	0.11	0.05	**0.42**	**0.47**	**0.43**	**0.43**	**0.45**	*0.89*					
JSAT	**-0.22**	**0**	-0.1	**-0.39**	**-0.38**	**-0.23**	**-0.19**	**-0.29**	**-0.35**	*0.89*				
SMON	**-0.25**	**0.33**	0	**0.17**	**0.14**	**0.26**	**0.36**	0.05	**0.26**	0.05	*0.89*			
OPEN	-0.1	**-0.18**	0.06	**-0.14**	**-0.15**	-0.1	**-0.19**	-0.04	**-0.18**	**0.16**	0.04	*0.81*		
INJURY	-0.05	**0.3**	0.06	**0.18**	**0.13**	0.08	**0.18**	0.03	0.05	0	**0.24**	-0.07	**n/a**	
WHOUR	**-0.17**	0.02	0.11	0	0	0.04	-0.09	0.07	**-0.12**	0.1	-0.05	0.08	0.06	**n/a**

Italic numbers are cronbach alpha for the respective scale
Bolded numbers are significant.
ALL correlations above .11 are significant at $p < .05$
ALL correlations at or above .14 are significant at $p < .01$

APPENDIX A

JOB COMPLEXITY: MORGESON & HUMPHREY (2006)

Instructions: We are interested in how you feel towards your job. Please rate each description of your job using the scale provided. There are no right or wrong answers, and no trick questions. We are simply interested in how YOU feel each of these descriptions applies to your job.

Strongly Disagree	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

1. ------- My job requires that I only do one task or activity at a time. (R)
2. ------- The tasks on my job are simple and uncomplicated. (R)
3. ------- My job comprises relatively uncomplicated tasks. (R)
4. ------- My job involves performing relatively simple tasks. (R)

APPENDIX B

INFORMATION PROCESSING: MORGESON & HUMPHREY (2006)

Instructions: We are interested in how you feel towards your job. Please rate each description of your job using the scale provided. There are no right or wrong answers, and no trick questions. We are simply interested in how YOU feel each of these descriptions applies to your job.

Strongly Disagree	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

1. ------- My job requires me to monitor a great deal of information.
2. ------- My job requires that I engage in a large amount of thinking.
3. ------- My job requires me to keep track of more than one thing at a time.
4. ------- My job requires me to analyze a lot of information.

APPENDIX C

PROBLEM SOLVING: MORGESON & HUMPHREY (2006)

Instructions: We are interested in how you feel towards your job. Please rate each description of your job using the scale provided. There are no right or wrong answers, and no trick questions. We are simply interested in how YOU feel each of these descriptions applies to your job.

Strongly Disagree	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

1. ------- My job involves solving problems that have no obvious correct answer.
2. ------- My job requires me to be creative.
3. ------- My job often involves dealing with problems that I have not met before.
4. ------- My job requires unique ideas or solutions to problems.

APPENDIX D

SOCIAL SUPPORTS SCALE: ESCHLEMAN ET AL. (2019A)

Instructions: We are interested in how you feel toward a wide variety of supports from coworkers and supervisor. Please rate each support from coworkers and supervisor using the scale provided. There are no right or wrong answers, and no trick questions. We are simply interested in how YOU feel about each of these supports from coworkers and supervisor.

Strongly Disagree	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

Coworkers

1. ---------- My coworkers deeply understand my perspective.
2. ---------- My coworkers are aware of the effect he/she has on me.
3. ---------- My coworkers connect with me about the way I feel.
4. ---------- My coworkers are genuine when communicating with me.
5. ---------- My coworkers are open to sharing new experiences with me.
6. ---------- My coworkers provide honest feedback to me.
7. ---------- My coworkers accept all aspects of who I am as a person.
8. ---------- My coworkers allow me to be myself.
9. ---------- My coworkers are patient with me.

Supervisor

1. ---------- My supervisor deeply understands my perspective.
2. ---------- My supervisor is aware of the effect he/she has on me.
3. ---------- My supervisor connects with me about the way I feel.
4. ---------- My supervisor is genuine when communicating with me.
5. ---------- My supervisor is open to sharing new experiences with me.
6. ---------- My supervisor provides honest feedback to me.
7. ---------- My supervisor accepts all aspects of who I am as a person.
8. ---------- My supervisor allows me to be myself.
9. ---------- My supervisor is patient with me.

APPENDIX E

INTERPERSONAL CONFLICT AT WORK SCALE: SPECTOR & JEX (1998)

Instructions: We are interested in how OFTEN workplace conflict occurs at your job. Please rate each statement using the scale provided. There are no right or wrong answers, and no trick questions. We are simply interested in how often each of these activities occur at your job.

Less than once per month or never	Once or twice per month	Once or twice per week	Once or twice per day	Several times per day
1	2	3	4	5

1. ---------- How often do you get into arguments with others at work?
2. ---------- How often do other people yell at you at work?
3. ---------- How often are people rude to you at work?
4. ---------- How often do other people do nasty things to you at work?

APPENDIX F

INTERACTION OUTSIDE ORGANIZATION: MORGESON & HUMPHREY (2006)

Instructions: We are interested in how you feel towards your job. Please rate each description of your job using the scale provided. There are no right or wrong answers, and no trick questions. We are simply interested in how YOU feel each of these descriptions apply to your job.

Strongly Disagree	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

1. ------- My job requires spending a great deal of time with people outside my organization.
2. ------- My job involves interaction with people who are not members of my organization.
3. ------- On the job, I frequently communicate with people who do not work for the same organization as I do.
4. ------- My job involves a great deal of interaction with people outside my organization.

APPENDIX G

PHYSICAL SELF-EFFICACY: RYCKMAN ET AL. (1982)

Instructions: We are interested in how you feel about your physical ability. Please rate each description of your physical ability using the scale provided. There are no right or wrong answers, and no trick questions. We are simply interested in how YOU feel each of these descriptions apply to your physical ability.

Strongly Disagree	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

1. ------- I have excellent reflexes. (R)
2. ------- I am not agile and graceful.
3. ------- My physique is rather strong. (R)
4. ------- I can't run fast.
5. ------- I don't feel in control when I take tests involving physical dexterity.
6. ------- I have poor muscle tone.
7. ------- I take little pride in my ability in spots.
8. ------- My speed has helped me out of some tight spots. (R)
9. ------- I have a strong grip. (R)
10. ------- Because of my agility, I have been able to do things which many others could not do. (R)

APPENDIX H

PHYSICAL DEMANDS: MORGESON & HUMPHREY (2006)

Instructions: We are interested in how you feel about the demands of your job. Please rate each description of your job using the scale provided. There are no right or wrong answers, and no trick questions. We are simply interested in how YOU feel each of these descriptions apply to your job.

Strongly Disagree	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

1. ------- My job requires a great deal of muscular endurance.
2. ------- My job requires a great deal of muscular strength.
3. ------- My job requires a lot of physical effort.

APPENDIX I

QUANTITATIVE WORKLOAD: SPECTOR & JEX (1998)

Instructions: We are interested in how often the demands of your job are too great. Please rate each description of your job using the scale provided. There are no right or wrong answers, and no trick questions. We are simply interested in how YOU feel each of these descriptions apply to your job.

Less than once per month or never	Once or twice per month	Once or twice per week	Once or twice per day	Several times per day
1	2	3	4	5

1.---------- How often does your job require you to work very fast?
2.---------- How often does your job require you to work very hard?
3.---------- How often does your job leave you with little time to get things done?
4.---------- How often is there a great deal to be done?
5.----------How often do you have to do more work than you can do well?

APPENDIX J

ROLE OVERLOAD: BEEHR ET AL. (1976)

Instructions: We are interested in how you feel about the demands of your job. Please rate each description of your job using the scale provided. There are no right or wrong answers, and no trick questions. We are simply interested in how YOU feel each of these descriptions apply to your job.

Strongly Disagree	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

1. ------- I am given enough time to do what is expected of me on my job.
2. ------- The performance standards on my job are too high.
3. ------- It often seems like I have too much work for one person to do.

APPENDIX K

ROLE OVERLOAD: THIAGARAJAN ET AL. (2006)

Instructions: We are interested in how you feel about the demands of your job. Please rate each description of your job using the scale provided. There are no right or wrong answers, and no trick questions. We are simply interested in how YOU feel each of these descriptions apply to your job.

Strongly Disagree	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

1. ------- I have to do things that I do not Really have the time and energy for.
2. ------- I need more hours in the day to do all the things that are expected of me.
3. ------- I cannot ever seem to catch up.
4. ------- I do not ever seem to have any time for myself.
5. ------- There are times when I cannot meet everyone's expectations.
6. ------- I seem to have more commitments to overcome than other parents I know.

APPENDIX L

WORK-FAMILY CONFLICT SCALE: NETEMEYER ET AL. (1996)

Instructions: We are interested in how you feel the demands of your job interfere with your family life. Please rate each statement using the scale provided. There are no right or wrong answers, and no trick questions. We are simply interested in how YOU feel each of these descriptions apply to you.

Strongly Disagree	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

1. ------- The demands of my work interfere with my home and family life.
2. ------- The amount of time my job takes up makes it difficult to fulfill family responsibilities.
3. ------- Things I want to do at home do not get done because of the demands my job puts on me.
4. ------- My job produces strain that makes it difficult to fulfill family duties.
5. ------- Due to work-related duties, I have to make changes to my plans for family activities.

APPENDIX M

FAMILY-WORK CONFLICT SCALE: NETEMEYER ET AL. (1996)

Instructions: We are interested in how you feel the demands of your family interfere with your work. Please rate each statement using the scale provided. There are no right or wrong answers, and no trick questions. We are simply interested in how YOU feel each of these descriptions apply to you.

Strongly Disagree	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

1. ------- The demands of my family or spouse/ partner interfere with work-related activities.
2. ------- I have to put off doing things at work because of demands on my time at home.
3. ------- Things I want to do at work don't get done because of the demands of my family or spouse/partner.
4. ------- My home life interferes with my responsibilities at work such as getting to work on time, accomplishing daily tasks, and working overtime.
5. ------- Family-related strain interferes with my ability to perform job-related duties.

APPENDIX N

ROLE CONFLICT: BOWLING ET AL. (2017)

Instructions: We are interested in how you feel about the demands of your job. Please rate each description of your job using the scale provided. There are no right or wrong answers, and no trick questions. We are simply interested in how YOU feel each of these descriptions apply to your job.

Strongly Disagree	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

1. ------- In my job, I often feel like different people are "pulling me in different directions"
2. ------- I have to deal with competing demands at work.
3. ------- My superiors often tell me to do two different things that can't both be done.
4. ------- The tasks I am assigned at work rarely come into conflict with each other. (R)
5. ------- The things I am told to do at work do not conflict with each other. (R)
6. ------- In my job, I'm seldom placed in a situation where one job duty conflicts with other job duties. (R)

APPENDIX O

ROLE AMBIGUITY: BOWLING ET AL. (2017)

Instructions: We are interested in how you feel about the demands of your job. Please rate each description of your job using the scale provided. There are no right or wrong answers, and no trick questions. We are simply interested in how YOU feel each of these descriptions apply to your job.

Strongly Disagree	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

1. ------- I am not sure what is expected of me at work.
2. ------- The requirements of my job aren't always clear.
3. ------- I often don't know what is expected of me at work
4. ------- I know everything that I am expected to do at work with certainty. (R)
5. ------- My job duties are clearly defined. (R)
6. ------- I know what i am required to do for every aspect of my job. (R)

APPENDIX P

GLOBAL JOB SATISFACTION MOAQ: CAMMANN ET AL. (1979)

Instructions: We are interested in how you feel about your job in general. Please rate each description of your job using the scale provided. There are no right or wrong answers, and no trick questions. We are simply interested in how YOU feel each of these descriptions apply to your job.

Strongly Disagree	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

1. ------- All in all, I am satisfied with my job.
2. ------- In general, I don't like my job. (R)
3. ------- In general, I like working here.

APPENDIX Q

SELF-MONITORING: SNYDER (1974)

Instructions: The statements following this concern your personal reactions to a number of different situations. Please rate each description using the scale provided. There are no right or wrong answers, and no trick questions. We are simply interested in YOU feel about each of these statements.

Strongly Disagree	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

1. ------- Hate being the center of attention. (R)
2. ------- Would make a good actor.
3. ------- Would not be a good comedian. (R)
4. ------- Don't like to draw attention to myself. (R)
5. ------- Put on a show to impress people.
6. ------- Am likely to show off if i get the chance.
7. ------- Am the life of the party.
8. ------- Am good at making impromptu speeches.
9. ------- Like to attract attention.
10. ------- Use flattery to get ahead

APPENDIX R

INTERNATIONAL PERSONALITY ITEM POOL (IPIP) – OPENNESS TO EXPERIENCE (GOLDBERG, 1999)

Instructions: Please rate each statement according to how well it describes you, using the scale provided. There are no right or wrong answers, and no trick questions. We are simply interested in how YOU feel about each of these statements.

Strongly Disagree	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

1. ------- Believe in the importance of art.
2. ------- Avoid philosophical discussions. (R)
3. ------- Have a vivid imagination.
4. ------- Do not like art. (R)
5. ------- Tend to vote for liberal political candidates.
6. ------- Am not interested in abstract ideas. (R)
7. ------- Do not enjoy going to art museums. (R)
8. ------- Tend to vote for conservative political candidates. (R)
9. ------- Carry the conversation to a higher level.
10. ------- Enjoy hearing new ideas

APPENDIX T

DEMOGRAPHIC QUESTIONS STUDY 1 AND STUDY 2

1.What is your current age in years? _____

2. What is the highest level of school you have completed or the highest degree you have received?

a) Less than high school degree
b) High school graduate (high school diploma or equivalent including GED)
c) Some college but no degree
d) Associate degree in college (2-year)
e) Bachelor's degree in college (4-year)
f) Master's degree
g) Doctoral degree
h) Professional degree (JD, MD)

3. Choose one or more race or ethnicity that you consider yourself to be:

a) White
b) Black or African American
c) American Indian or Alaska Native
d) Asian
e) Other
f) Spanish
g) Hispanic
h) Latino

4. What is your sex?

a) Male
b) Female

5. Please write the amount rounded to the nearest thousand that includes your entire household income (previous year) before taxes_____

6. Are you fluent in English?

a) Yes
b) No

7. How many years have you worked in your current position? _____

8. How many hours on average do you work per week in your current positions (not counting time spent working on MTurk)? _____

9. What is your job title? _____

APPENDIX U

SORTING TASK

Instructions:

Below you will find definitions of work-related concepts, we are interested in whether our items are representative of these concepts. You will be presented with 60 questions and we ask that you assign each of these questions to the concept you best believe it represents. The definitions and examples of each concept will be at the top of each page if you need to refer back to them while making decisions. Note that each statement is worded to represent either high levels (e.g., having too much work) or low levels (e.g., having a desired amount of work) of that job condition. You should select the corresponding work-related concept for each statement regardless of whether that statement reflects high or low levels of that job condition.

"Workload" - Is the amount of work in terms of pace and volume that a worker is expected to complete. In some scenarios work can be too great in either pace or volume causing the worker stress. Workload focuses on the amount and pace of work rather than the perceptions of the work. This concept is concerned with **objective** measures of work.

An example item is " How often does your job require you to work very fast "

"Job Uncertainty" - In some jobs, workers are routinely placed in situations that lack clarity. They may, for instance, be given assignments that are unclear, or they may not be given information needed to do their job. Other workers may be given unclear information about their own authority or responsibilities. Still, other workers may have to follow organizational policies or guidelines that are unclear. Each of these is an example of “job uncertainty.” This concept focuses on the uncertainty a worker feels about responsibilities or tasks.

An example question is " I feel certain about how much authority I have."

"Job Conflict" - In some jobs, workers are routinely placed in situations that make them feel conflicted. Some workers, for instance, may feel conflicted because their job requires them to do things that are opposed to their personal standards or values. Other workers may feel conflicted because their supervisor gives them a task or expectation that is

inconsistent with what others have told them or is inconsistent with company policy. Each of these is an example of “job conflict.” This concept focuses on conflict between tasks or the worker’s values.
An example question is " I receive incompatible requests from two or more people."

"Qualitative Job Overload"- In some jobs, workers are routinely place in situations the worker is not prepared for. These workers, for instance, may be given a task that they have no training or background knowledge on and therefore it is too difficult for them to complete. Others may be given tasks at which they have no aptitude for and subsequently find these tasks difficult. Each of these is an example of " qualitative job overload". This concept focuses on a worker’s **feelings** about the mismatch between the task and the worker’s ability.

An example question is "I often feel tasks at my job are beyond my capabilities."

"Quantitative Job Overload"- In some jobs, workers are routinely placed in situations that they **feel** overwhelmed by the amount of work. These workers may feel stress due to not having enough time available to meet the demands of the job. Others might feel stress due either having to work faster or lower standards to complete the work in the allotted time. This concept focuses on the worker’s **feelings** about the amount of work.

An example question is " I need more hours in the day to do all the things that are expected of me."

The Job Overload concepts are further divided into three aspects, based on the type of work the job focuses on.

“Data”- This aspect focuses on the thinking or information required by the job, it also includes. Tasks such as coordinating operations, problem solving, or computing and analyzing information would be classified under this aspect.

“People”- This aspect focuses on the interaction with others required by the job. Tasks such as interacting with supervisors, coworkers, or customers would be classified under this aspect.

“Physical”- This aspect focuses on the physical action required by the job. Tasks such as carrying objects, running, driving, or operating heavy equipment would be classified under this aspect.

APPENDIX V

ROLE OVERLOAD DATA: BEFORE REDUCTION

Instructions: Work often requires employees to think (e.g., engage in logical reasoning, such as analyzing customer reviews to modify training programs, problem solving, and abstract thinking, such as forming a theory on why the program is not working). Thinking also includes aspects such as coordinating operations, copying information, and computing or analyzing information. Please respond to each of the following items about the **thinking required by your current job**. Note each set of questions is concerned with a different concept, when responding please attempt to only think of the highlighted concept.

Strongly Disagree	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The **amount of thinking** required by my job is . . .

1. ------- overwhelming for me.
2. ------- too much for me.
3. ------- more than I can handle.
4. ------- greater than my ability level.
5. ------- too difficult for me.
6. ------- difficult for me to cope with.
7. ------- beyond my capabilities.
8. ------- too great.
9. ------- outside of my comfort zone.
10. ------- excessive.
11. ------- manageable. (R)
12. ------- reasonable. (R)
13. ------- within my capabilities. (R)
14. ------- suitable for me. (R)
15. ------- at a level I can tolerate. (R)

The **intensity of thinking** required by my job is . . .

1. ------- overwhelming for me.
2. ------- too much for me.

3. ------- more than I can handle.
4. ------- greater than my ability level.
5. ------- too difficult for me.
6. ------- difficult for me to cope with.
7. ------- beyond my capabilities.
8. ------- too great.
9. ------- outside of my comfort zone.
10.------- excessive.
11.------- manageable. (R)
12.------- reasonable. (R)
13.------- within my capabilities. (R)
14.------- suitable for me. (R)
15.------- at a level I can tolerate. (R)

APPENDIX W

ROLE OVERLOAD PEOPLE: BEFORE REDUCTION

Instructions: Work often requires employees to interact with other people (e.g., interact with supervisors, coworkers, subordinates, or customers). Please respond to each of the following items about the **social interaction required by your current job**. Note each set of questions is concerned with a different concept, when responding please attempt to only think of the highlighted concept.

Strongly Disagree	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The **amount of social interaction** required by my job is . . .

1. ------- overwhelming for me.
2. ------- too much for me.
3. ------- more than I can handle.
4. ------- greater than my ability level.
5. ------- too difficult for me.
6. ------- difficult for me to cope with.
7. ------- beyond my capabilities.
8. ------- too great.
9. ------- outside of my comfort zone.
10. ------- excessive.
11. ------- manageable. (R)
12. ------- reasonable. (R)
13. ------- within my capabilities. (R)
14. ------- suitable for me. (R)
15. ------- at a level I can tolerate. (R)

The **intensity of social interaction** required by my job is . . .

1. ------- overwhelming for me.
2. ------- too much for me.
3. ------- more than I can handle.
4. ------- greater than my ability level.
5. ------- too difficult for me.
6. ------- difficult for me to cope with.

7. ------- beyond my capabilities.
8. ------- too great.
9. ------- outside of my comfort zone.
10.------- excessive.
11.------- manageable. (R)
12.------- reasonable. (R)
13.------- within my capabilities. (R)
14.------- suitable for me. (R)
15.------- at a level I can tolerate. (R)

APPENDIX X

ROLE OVERLOAD THINGS: BEFORE REDUCTION

Instructions: Work often requires employees to engage in physical action (e.g., carry objects, stand, walk, run, climb). Physical action also includes operating equipment (e.g., driving, using handheld tools, operating heavy equipment, etc…) Please respond to each of the following items about the **physical action required by your current job**. Note each set of questions is concerned with a different concept, when responding please attempt to only think of the highlighted concept.

Strongly Disagree	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The **amount of physical action** required by my job is . . .

1. ------- overwhelming for me.
2. ------- too much for me.
3. ------- more than I can handle.
4. ------- greater than my ability level.
5. ------- too difficult for me.
6. ------- difficult for me to cope with.
7. ------- beyond my capabilities.
8. ------- too great.
9. ------- outside of my comfort zone.
10. ------- excessive.
11. ------- manageable. (R)
12. ------- reasonable. (R)
13. ------- within my capabilities. (R)
14. ------- suitable for me. (R)
15. ------- at a level I can tolerate. (R)

The **intensity of physical action** required by my job is . . .

1. ------- overwhelming for me.
2. ------- too much for me.
3. ------- more than I can handle.
4. ------- greater than my ability level.
5. ------- too difficult for me.
6. ------- difficult for me to cope with.

7. ------- beyond my capabilities.
8. ------- too great.
9. ------- outside of my comfort zone.
10.------- excessive.
11.------- manageable. (R)
12.------- reasonable. (R)
13.------- within my capabilities. (R)
14.------- suitable for me. (R)
15.------- at a level I can tolerate. (R)

APPENDIX Y

ROLE OVERLOAD FAMILY: BEFORE REDUCTION

Instructions: Families often have their members either fulfill tasks or take on roles within the family (e.g., mow the lawn, do the dishes, be a parent, etc.). Please respond to each of the following items about the **roles and expectations within your family.**

Strongly Disagree	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

1. ------- I never seem to have enough time to get all my family work done.
2. ------- I have tasks to carry out without enough help from others in my family to complete them.
3. ------- I have too much family related work to do everything well.
4. ------- I have family related tasks to carry out without adequate resources and materials to execute them
5. ------- I have enough time to get all my family related work done.
6. ------- I work on unnecessary family related things.

Family role overload was measured with a six-item scale paralleling Cooke and Rousseau's (1984) overload scale devised by Kellyann Berube Kowalski.

1998 unpublished dissertation. A model of the antecedents and outcomes of work-family conflict as moderated by social support. University of Rhode Island.

APPENDIX Z

DEMOGRAPHIC QUESTIONS STUDY 3

1.What is your current age in years? _____

2. What is the highest level of school you have completed or the highest degree you have received?

i) Less than high school degree
j) High school graduate (high school diploma or equivalent including GED)
k) Some college but no degree
l) Associate degree in college (2-year)
m) Bachelor's degree in college (4-year)
n) Master's degree
o) Doctoral degree
p) Professional degree (JD, MD)

3. Choose one or more race or ethnicity that you consider yourself to be:

i) White
j) Black or African American
k) American Indian or Alaska Native
l) Asian
m) Native Hawaiian or Pacific Islander
n) Other
o) Spanish
p) Hispanic
q) Latino

4. What is your sex?

c) Male
d) Female

5. Information about income is very important to understand our research question. Would you please give your best guess? Please write the amount rounded to the nearest thousand that includes your entire household income (previous year) before taxes. _____

6. Are you fluent in English?

c) Yes
d) No

7. Which statement best describes your current employment status?

a) Working (paid empl

b) Working (self-employed)
c) Not working (temporary layoff from a job)
d) Not working (looking for work)
e) Not working (retired)
f) Not working (disabled)
g) Not working (other)
h) Prefer not to answer

8. How many employees work in your establishment?

a) 1-4
b) 5-9
c) 10-19
d) 20-49
e) 50-99
f) 100-249
g) 250-499
h) 500-999
i) 1000 or more

9. Where are you employed?

a) PRIVATE-FOR-PROFIT company, business or individual, for wages, salary, or commissions
b) PRIVATE-NOT-FOR-PROFIT, tax-exempt, or charitable organization
c) Local GOVERNMENT employee (city, county, etc.)
d) State GOVERNMENT employee; 5-Federal GOVERNMENT employee
e) Federal GOVERNMENT employee
f) SELF-EMPLOYED in own NOT INCORPORATED business, professional practice, or farm
g) SELF-EMPLOYED in own INCORPORATED business, professional practice, or farm
h) Working WITHOUT PAY in family business or farm

10. Which of the following industries most closely matches the one in which you are employed?

a) Forestry, fishing, hunting or agriculture support
b) Real estate or rental and leasing
c) Mining
d) Professional, scientific, or technical services
e) Utilities
f) Management of companies or enterprises
g) Construction
h) Admin, support, waste management or remediation services
i) Manufacturing
j) Educational services
k) Wholesale trade

l) Health care or social assistance
m) Retail trade
n) Arts, entertainment, or recreation
o) Transportation or warehousing
p) Accommodation or food services
q) Information
r) Other services (except public administration)
s) Finance or insurance
t) Unclassified establishments

11. Please indicate your occupation

a) Management, professional, and related
b) Service
c) Sales and office
d) Farming, fishing, and forestry
e) Construction, extraction, and maintenance
f) Production, transportation, and material moving
g) Government
h) Retired
i) Unemployed

12. How many years have you worked in your current position? _____

13. How many hours on average do you work per week in your current positions (not counting time spent working on MTurk)? _

14. How many young children do you have?

15. Are you the Primary caregiver to your child.

APPENDIX AA

ROLE OVERLOAD DATA: FINAL VERSION

Instructions: Work often requires employees to think (e.g., engage in logical reasoning, such as analyzing customer reviews to modify training programs, problem solving, and abstract thinking, such as forming a theory on why the program is not working). Thinking also includes aspects such as coordinating operations, copying information, and computing or analyzing information. Please respond to each of the following items about the **thinking required by your current job**. Note each set of questions is concerned with a different concept, when responding please attempt to only think of the highlighted concept.

Strongly Disagree	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The **amount of thinking** required by my job is . . .

1. ------- overwhelming for me.
2. ------- too much for me.
3. ------- more than I can handle.

The **intensity of thinking** required by my job is . . .

1. ------- overwhelming for me.
2. ------- too much for me.
3. ------- more than I can handle.

Instructions: Please follow the above instructions but choose the set of words that best represents your feelings about the question.

Not meeting my needs	Approaching an unfulfilling level	Below the level I desire.	At a level I desire.	Above the level I desire	Approaching the limits of my capabilities	Beyond the limits of my capabilities.
1	2	3	4	5	6	7

The **amount of thinking** required by my job is . . .

The **intensity of thinking** required by my job is . . .

APPENDIX AB

ROLE OVERLOAD PEOPLE: FINAL VERSION

Instructions: Work often requires employees to interact with other people (e.g., interact with supervisors, coworkers, subordinates, or customers). Please respond to each of the following items about the **social interaction required by your current job**. Note each set of questions is concerned with a different concept, when responding please attempt to only think of the highlighted concept.

Strongly Disagree	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The **amount of social interaction** required by my job is . . .

1. ------- too much for me.
2. ------- too difficult for me.
3. ------- difficult for me to cope with.

The **intensity of social interaction** required by my job is . . .

1. ------- too much for me.
2. ------- too difficult for me.
3. ------- difficult for me to cope with.

Instructions: Please follow the above instructions but choose the set of words that best represents your feelings about the question.

Not meeting my needs	Approaching an unfulfilling level	Below the level I desire.	At a level I desire.	Above the level I desire	Approaching the limits of my capabilities	Beyond the limits of my capabilities.
1	2	3	4	5	6	7

The **amount of social interaction** required by my job is . . .

The **intensity of social interaction** required by my job is . . .

APPENDIX AC

ROLE OVERLOAD THINGS: FINAL VERSION

Instructions: Work often requires employees to engage in physical action (e.g., carry objects, stand, walk, run, climb). Physical action also includes operating equipment (e.g., driving, using handheld tools, operating heavy equipment, etc…) Please respond to each of the following items about the **physical action required by your current job**. Note each set of questions is concerned with a different concept, when responding please attempt to only think of the highlighted concept.

Strongly Disagree	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The **amount of physical action** required by my job is . . .

1. ------- too much for me.
2. ------- too great.
3. ------- outside of my comfort zone.

The **intensity of physical action** required by my job is . . .

1. ------- too much for me.
2. ------- too great.
3. ------- outside of my comfort zone.

Instructions: Please follow the above instructions but choose the set of words that best represents your feelings about the question.

Not meeting my needs	Approaching an unfulfilling level	Below the level I desire.	At a level I desire.	Above the level I desire	Approaching the limits of my capabilities	Beyond the limits of my capabilities.
1	2	3	4	5	6	7

The **amount of physical action** required by my job is . . .

The **intensity of physical action** required by my job is . . .

APPENDIX AD

ROLE OVERLOAD FAMILY: FINAL VERSION

Instructions: Families often have their members either fulfill tasks or take on roles within the family (e.g., mow the lawn, do the dishes, be a parent, etc.). Please respond to each of the following items about the **roles and expectations within your family.**

Strongly Disagree	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

1. ------- I never seem to have enough time to get all my family work done.
2. ------- I have tasks to carry out without enough help from others in my family to complete them.
3. ------- I have too much family related work to do everything well.
4. ------- I have family related tasks to carry out without adequate resources and materials to execute them

Family role overload was measured with a six-item scale paralleling Cooke and Rousseau's (1984) overload scale devised by Kellyann Berube Kowalski.

1998 unpublished dissertation. A model of the antecedents and outcomes of work-family conflict as moderated by social support. University of Rhode Island.

APPENDIX AE

STUDY 1 DISCLAIMER

Dear Participant:

You are being invited to participate in a research study by completing a survey conducted by Graduate Student Sean Becker and Professor Nathan Bowling. This study focuses on how people perceive their work, coworkers, and workload. There are no known risks for your participation in this research. The information collected may not benefit you directly; however, it might be helpful to others. Our findings, for instance, could result in methods to improve employee well-being. All information collected as a part of this study will be stored electronically and will be accessible only to the researchers. Your completed survey will be kept completely confidential and stored securely online.

The survey will take approximately 20 minutes to complete. You will be compensated with $1.00 for completing the survey**. Please complete the entire survey in one sitting. You will NOT be able to partially complete the survey and return to it at a later time. Please be sure you have available the allotted amount of time before beginning the survey. You will have a maximum of 60 minutes to complete the survey.**

Individuals from the Department of Psychology, the Institutional Review Board (IRB), Office of Research and Sponsored Programs and other regulatory agencies may inspect these records. In all other respects, however, the data will be held in confidence to the extent permitted by law. Should the data be published, your identity will not be disclosed.

Taking part in this study is voluntary. You do not have to answer any questions that make you uncomfortable. You may choose not to take part at all. If you decide to be in this study, you may stop taking part at any time. If you decide not to be in this study or if you stop taking part at any time, you will not lose any benefits for which you may qualify.

If you have any questions, concerns, or complaints about the research study, please contact Sean Becker (email: Becker.92@wright.edu). If you have any questions about your rights as a research subject, you may call the Wright State IRB Office at (937) 775-4462 You can discuss any questions about your rights as a research subject with a member of the IRB or staff. The IRB is an independent committee made up of people from the University community, staff of the institutions, as well as people from the community not connected with these institutions.

Sincerely,

Sean Becker

APPENDIX AF

STUDY 2 DISCLAIMER

Dear Participant:

You are being invited to participate in a research study by completing a survey conducted by Graduate Student Sean Becker. This study focuses on the representativeness of psychological concepts in questions designed to measure them. There are no known risks for your participation in this research. The information collected may not benefit you directly; however, it might be helpful to others. Our findings, for instance, could result in methods to improve employee well-being. All information collected as a part of this study will be stored electronically and will be accessible only to the researchers. Your completed survey will be kept completely confidential and stored securely online.

The survey will take approximately 15 minutes to complete. You will be compensated with $1.00 for completing the survey. **Please complete the entire survey in one sitting. You will NOT be able to partially complete the survey and return to it at a later time. Please be sure you have available the allotted amount of time before beginning the survey. You will have a maximum of 30 minutes to complete the survey.**

Individuals from the Department of Psychology, the Institutional Review Board (IRB), Office of Research and Sponsored Programs and other regulatory agencies may inspect these records. In all other respects, however, the data will be held in confidence to the extent permitted by law. Should the data be published, your identity will not be disclosed.

Taking part in this study is voluntary. You do not have to answer any questions that make you uncomfortable. You may choose not to take part at all. If you decide to be in this study, you may stop taking part at any time. If you decide not to be in this study or if you stop taking part at any time, you will not lose any benefits for which you may qualify.

If you have any questions, concerns, or complaints about the research study, please contact Sean Becker (email: Becker.92@wright.edu). If you have any questions about your rights as a research subject, you may call the Wright State IRB Office at (937) 775-4462. You can discuss any questions about your rights as a research subject with a member of the IRB or staff. The IRB is an independent committee made up of people from the University community, staff of the institutions, as well as people from the community not connected with these institutions.

Sincerely,

Sean Becker

APPENDIX AG

STUDY 3 DISCLAIMER

Dear Participant:

You are being invited to participate in a research study by completing a survey conducted by Graduate Student Sean Becker. This study focuses on how people perceive their work, coworkers, and workload. There are no known risks for your participation in this research. The information collected may not benefit you directly; however, it might be helpful to others. Our findings, for instance, could result in methods to improve employee well-being. All information collected as a part of this study will be stored electronically and will be accessible only to the researchers. Your completed survey will be kept completely confidential and stored securely online.

The survey will take approximately 30 minutes to complete. You will be compensated with $1 for completing the survey**. Please complete the entire survey in one sitting. You will NOT be able to partially complete the survey and return to it at a later time. Please be sure you have available the allotted amount of time before beginning the survey. You will have a maximum of 60 minutes to complete the survey.**

Individuals from the Department of Psychology, the Institutional Review Board (IRB), Office of Research and Sponsored Programs and other regulatory agencies may inspect these records. In all other respects, however, the data will be held in confidence to the extent permitted by law. Should the data be published, your identity will not be disclosed.

Taking part in this study is voluntary. You do not have to answer any questions that make you uncomfortable. You may choose not to take part at all. If you decide to be in this study, you may stop taking part at any time. If you decide not to be in this study or if you stop taking part at any time, you will not lose any benefits for which you may qualify.

If you have any questions, concerns, or complaints about the research study, please contact Sean Becker (email: Becker.92@wright.edu). If you have any questions about your rights as a research subject, you may call the Wright State IRB Office at (937) 775-4462. You can discuss any questions about your rights as a research subject with a member of the IRB or staff. The IRB is an independent committee made up of people from the University community, staff of the institutions, as well as people from the community not connected with these institutions

Sincerely,

Sean Becker

APPENDIX AH

DEFINITIONS OF O*NET WORK ACTIVITIES

Dimension	Definition
Information Input	Where and how are the information and data gained that are needed to perform this job?
Interacting With Others	What interactions with other persons or supervisory activities occur while performing this job?
Mental Processes	What processing, planning, problem-solving, decision-making, and innovating activities are performed with job-relevant information?
Work Output	What physical activities are performed, what equipment and vehicles are operated/controlled, and what complex/technical activities are accomplished as job outputs?

Any item that fell under these general guideline item classifications, or were variants of these items, were classified the same as the general guideline item that most closely aligned with it.

Table of Every Work Activity Classified as Data, People or Things

Item	*Data*	*People*	*Things*
Getting Information	X		
Identifying Objects, Actions, and Events	X		
Inspecting Equipment, Structures, or Material	X		
Monitor Processes, Materials, or Surroundings	X		
Estimating Quantifiable Characteristics of Products, Events, or Info	X		
Analyzing Data or Information	X		
Developing Objectives and Strategies	X		
Evaluating Information to Determine Compliance with Standards	X		
Judging the Qualities of Things, Services or People	X		
Making Decisions and Solving Problems	X		
Organizing, Planning, and Prioritizing Work	X		
Processing Information	X		
Scheduling Work and Activities	X		
Thinking Creatively	X		
Updating and Using Relevant Knowledge			X
Controlling Machines and Processes			X
Documenting/Recording Information			X
Drafting, Laying Out, and Specifying Technical Devices, Parts, and Equipment			X
Handling and Moving Objects			X
Interacting With Computers			X
Operating Vehicles, Mechanized Devices, or Equipment			X
Performing General Physical Activities			X
Repairing and Maintaining Electronic Equipment			X
Repairing and Maintaining Mechanical Equipment			X
Assisting and Caring for Others		X	
Coaching and Developing Others		X	
Communicating with Persons Outside Organization		X	
Communicating with Supervisors, Peers, or Subordinates		X	
Coordinating the Work and Activities of Others		X	
Developing and Building Teams		X	
Establishing and Maintaining Interpersonal Relationships		X	
Guiding, Directing, and Motivating Subordinates		X	
Interpreting the Meaning of Information for Others		X	
Monitoring and Controlling Resources		X	
Performing Administrative Activities		X	
Performing for or Working Directly with the Public		X	
Provide Consultation and Advice to Others		X	
Resolving Conflicts and Negotiating with Others		X	

Selling or Influencing Others	**X**
Staffing Organizational Units	**X**
Training and Teaching Others	**X**