

1-1-2013

Illegitimate Tasks and Employee Well-Being: A Daily Diary Study

Erin Eatough

University of South Florida, eatough@gmail.com

Follow this and additional works at: <http://scholarcommons.usf.edu/etd>

 Part of the [Occupational Health and Industrial Hygiene Commons](#), [Organizational Behavior and Theory Commons](#), and the [Psychology Commons](#)

Scholar Commons Citation

Eatough, Erin, "Illegitimate Tasks and Employee Well-Being: A Daily Diary Study" (2013). *Graduate Theses and Dissertations*.
<http://scholarcommons.usf.edu/etd/4476>

This Dissertation is brought to you for free and open access by the Graduate School at Scholar Commons. It has been accepted for inclusion in Graduate Theses and Dissertations by an authorized administrator of Scholar Commons. For more information, please contact scholarcommons@usf.edu.

Illegitimate Tasks and Employee Well-Being: A Daily Diary Study

by

Erin M. Eatough Cooley

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
Department of Psychology
College of Arts and Sciences
University of South Florida

Major Professor: Paul E. Spector, Ph.D.
Laurenz Meier, Ph.D.
Winnie Shen, Ph.D.
Tiina Ojanen, Ph.D.
Nicholas Hall, Ph.D.
Walter Nord, Ph.D.

Date of Approval:
November 29th, 2012

Keywords: self-esteem, job satisfaction, anger, depressive mood, fatigue, psychological health

Copyright © 2013, Erin M. Eatough Cooley

Acknowledgments

First, thank you to my major professor, Paul Spector, for his guidance, expertise, mentorship, and counsel on this dissertation and in my doctoral training. You have shown me how to be a scientific and sincere researcher, a warm and caring teacher, and a reliable mentor. It is a fact that you and your research were what inspired me to pursue graduate school in industrial/organizational psychology and I am so fortunate to have had the opportunity to be your protégée. It has been an honor. Secondly, I need to thank my other advisor, Daisy Chang, for the years of mentorship and guidance she has given me that have culminated in this dissertation. You have shaped me into an academic. Thank you for believing in me. Laurenz Meier introduced me to the topic of illegitimate tasks and essentially taught me hierarchical linear modeling on his white board in his office. The quality of this study is in large part due to the generosity and intellect of Laurenz. You have inspired me to be a better researcher, to ask more important questions, and to switch to Mac. Winny Shen, Nick Hall, Tiina Ojanen, and Walt Nord: Thank you for being a part of my committee and for your encouragement and guidance. Thanks to my fellow graduate students who have helped me instrumentally and emotionally, especially during my dissertation work. Finally, thank you to my family for speaking of my graduate school pursuit with pride even if they still don't fully know what industrial/organizational psychology is. My husband, Jim Cooley, has been my biggest fan. Thank you for trying to explain to the rest of our family what industrial/organizational psychology is.

Table of Contents

List of Tables	iii
List of Figures	vi
Abstract	vii
Chapter One – Introduction	1
Illegitimate Tasks	2
The construct validity of illegitimate tasks	5
Theoretical frameworks	9
Illegitimate tasks and well-being	14
Self-esteem	14
Discrete emotions and fatigue	16
Job satisfaction	18
Sleep quality	19
Trait self-esteem	20
Advancing the Illegitimate Tasks and Health Link	21
Chapter Two – Method	24
Participants	24
Procedure	27
Informed consent and participant training	27
Data collection procedures	28
Measures	29
Demographics	30
Illegitimate tasks	30
State self-esteem	31
Discrete emotions	31
Fatigue	31
Job satisfaction	31
Sleep quality	32
Trait self-esteem	32
Data Structure and Quality	32
Data Analysis	34
Chapter Three – Results	39
Chapter Four – Discussion	52
Hypothesis 1	52

Hypothesis 2	53
Hypothesis 3	55
Hypothesis 4	56
Hypothesis 5	57
Theoretical Implications	60
State self-esteem and the SOS framework	61
Contributions to the nomological network	62
Unique Patterns of Association	63
Anger and job satisfaction	63
Anger	63
Job satisfaction	64
Depressive mood and fatigue	65
Depressive mood	65
Fatigue	66
Holistic patterns	68
Practical Implications	71
Limitations	74
Future Research	76
Summary	78
Conclusion	79
References	80
Appendices	96
Appendix A: Additional Tables	97
Appendix B: Study Scales	118

List of Tables

Table 1:	Descriptive Statistics for Level-1 Variables and Intra-Class Correlation Coefficients for Dependent Variables	22
Table 2:	Descriptive Statistics for Level-2 Variables	24
Table 3:	Bivariate Correlations Between Level-2 Factors	27
Table A1:	Effects of BITS Experienced in the Morning (Reported at Mid-day) on Mid-day State Self-Esteem	97
Table A2:	Effects of BITS Experienced in the Morning (Reported at Mid-day) on Evening State Self-Esteem	97
Table A3:	Effects of BITS Experienced in the Afternoon (Reported at Evening) on Evening State Self-Esteem	98
Table A4:	Effects of BITS Experienced Across the Workday on Evening Anger	98
Table A5:	Effects of BITS Experienced in the Afternoon (Reported at Evening) on State Self-Esteem the Following Morning	99
Table A6:	Effects of BITS Experienced Across the Workday on State Self-Esteem the Following Morning	99
Table A7:	Effects of BITS Experienced Across the Workday on State Self-Esteem the Following Day	100
Table A8:	Effects of BITS Experienced in the Morning (Reported at Mid-day) on Mid-day Anger	101
Table A9:	Effects of BITS Experienced in the Morning (Reported at Mid-day) on Evening Anger	101
Table A10:	Effects of BITS Experienced in the Afternoon (Reported at Evening) on Evening Anger	102
Table A11:	Effects of BITS Experienced Across the Workday on Evening Anger	102

Table A12:	Effects of BITS Experienced in the Afternoon (Reported at Evening) on Anger the Following Morning	103
Table A13:	Effects of BITS Experienced Across the Workday on Anger the Following Morning	103
Table A14:	Effects of BITS Experienced Across the Workday on Anger the Following Day	104
Table A15:	Effects of BITS Experienced in the Morning (Reported at Mid-day) on Mid-day Depressive Mood	105
Table A16:	Effects of BITS Experienced in the Morning (Reported at Mid-day) on Evening Depressive Mood	105
Table A17:	Effects of BITS Experienced in the Afternoon (Reported at Evening) on Evening Depressive Mood	106
Table A18:	Effects of BITS Experienced Across the Workday on Evening Depressive Mood	106
Table A19:	Effects of BITS Experienced in the Afternoon (Reported at Evening) on Depressive Mood the Following Morning	107
Table A20:	Effects of BITS Experienced Across the Workday on Depressive Mood the Following Morning	107
Table A21:	Effects of BITS Experienced Across the Workday on Depressive Mood the Following Day	108
Table A22:	Effects of BITS Experienced in the Morning (Reported at Mid-day) on Mid-day Fatigue	109
Table A23:	Effects of BITS Experienced in the Morning (Reported at Mid-day) on Evening Fatigue	109
Table A24:	Effects of BITS Experienced in the Afternoon (Reported at Evening) on Evening Fatigue	110
Table A25:	Effects of BITS Experienced Across the Workday on Evening Fatigue	110
Table A26:	Effects of BITS Experienced in the Afternoon (Reported at Evening) on Fatigue the Following Morning	111

Table A27:	Effects of BITS Experienced Across the Workday on Fatigue the Following Morning	111
Table A28:	Effects of BITS Experienced Across the Workday on Fatigue the Following Day	112
Table A29:	Effects of BITS Experienced in the Morning (Reported at Mid-day) on Mid-day Job Satisfaction	113
Table A30:	Effects of BITS Experienced in the Morning (Reported at Mid-day) on Evening Job Satisfaction	113
Table A31:	Effects of BITS Experienced in the Afternoon (Reported at Evening) on Evening Job Satisfaction	114
Table A32:	Effects of BITS Experienced Across the Workday on Evening Job Satisfaction	114
Table A33:	Effects of BITS Experienced in the Afternoon (Reported at Evening) on Job Satisfaction the Following Morning	115
Table A34:	Effects of BITS Experienced Across the Workday on Job Satisfaction the Following Morning	115
Table A35:	Effects of BITS Experienced Across the Workday on Job Satisfaction the Following Day	116
Table A36:	Effects of BITS on Sleep Quality Indicators	117

List of Figures

Figure 1: Graphic depiction of the study's methods and timeline	38
Figure 2: Schematic representation of the significant effects of illegitimate tasks on well-being across each daily diary measurement	47
Figure 3: Schematic representation of interactive effects	48
Figure 4: Interaction between illegitimate tasks reported at mid-day and trait self-esteem on state self-esteem mid-day	49
Figure 5: Interaction between illegitimate tasks reported at mid-day and trait self-esteem on state self-esteem in the evening	50
Figure 6: Interaction between illegitimate tasks across the workday and trait self-esteem on state self-esteem the following day	51

Abstract

This dissertation focuses on an occupational stressor that has been recently introduced to the literature, illegitimate tasks, or tasks that seem unreasonable or unnecessary at work. Previous work has demonstrated the relationship between illegitimate tasks and a narrow set of discrete emotions as well as negative employee performance behaviors. The current research contributes to the literature by expanding the nomological network associated with illegitimate tasks and uses a rigorous daily diary methodology in a full-time working sample. It was expected that illegitimate tasks reduce state levels of self-esteem as well as other employee well-being indicators including anger, depressive mood, fatigue, job satisfaction, and sleep quality. Ninety participants filled out trait level surveys and subsequently completed daily diary questionnaires three times daily for two workweeks. Daily diaries assessed experiences of illegitimate tasks as well as self-esteem and well-being. Hierarchical linear modeling was used to test primary hypotheses. Results indicate that anger and job satisfaction are consistently, significantly associated with illegitimate task episodes throughout workdays; however, responses dissipate overnight. Depressive mood and fatigue tend to be related to illegitimate tasks as the workday carries on and these responses appear to persist into the following workday. Results are consistent with the notion that illegitimate tasks reduce state self-esteem. However, high trait levels of self-esteem may negate this relationship. No effects on sleep quality were evident. In sum, daily experience of illegitimate task episodes

represents a meaningful occupational stressor that predicts reductions in employee self-esteem and employee well-being.

Chapter One Introduction

Stressors at work are consistently related to employee health outcomes on psychological and physical levels (Spector, Dwyer, & Jex, 1988; Yang, Che, & Spector, 2008). For example, workplace stressors have been associated with symptoms of depression (Liu, Spector, & Shi, 2007) and anxiety (Liu, et al., 2007) as well as sleep disturbances (Nakata et al., 2004) and a greater risk for cardiovascular diseases (Landsbergis et al., 2001). Understanding the pathways between stressors and employee outcomes is important for designing interventions to reduce stressors and their possible negative consequences on both employee well-being and organizational effectiveness. The nature of work and its associated stressors are perpetually evolving and empirical efforts should strive to maintain fidelity to salient issues in the workplace. Many empirical studies in occupational health psychology directly contribute to this endeavor. However, the sphere of occupational stressors that have received research attention is arguably not yet comprehensive.

Recent updates to the taxonomy of workplace stressors (Rosen, Chang, Djurdjevic, & Eatough, 2010) as well as theoretical and conceptual advancements in the last five years (i.e. Semmer, Jacobshagen, Meier, & Elfering, 2007) have expanded the domain space of occupational stressors. The identification and conceptual development of new, relevant occupational stressors has been one area of advancement (i.e. Semmer, Tschann, Meier, Facchin, & Jacobshagen, 2010). In particular, the concept of illegitimate tasks, or tasks that violate what is reasonably expected of an employee based on role

norms (Semmer et al., 2010), has been posited as a new stressor concept with direct ties to employee health (Semmer, Jacobshagen, Meier, & Elfering, 2012) and behavior (Semmer et al., 2010). Illegitimate tasks are likely pervasive, spanning a broad range of occupations and jobs and represent a novel and burgeoning area of stressor research. Strong methodological studies targeting this new conceptual development are needed to push the field forward with the goal of a more holistic understanding of the occupational stressor domain space.

Illegitimate Tasks

The concept of illegitimate tasks has recently been introduced by Semmer and colleagues (Semmer et al., 2012). Illegitimate tasks refer to tasks that are in violation of what is reasonably expected from a given person. In other words, illegitimate tasks are role violations. A task can be considered illegitimate to the extent that it violates role norms (Semmer et al., 2010). Because roles at work are integrated with one's self identify (Ashforth, 2001), illegitimate tasks are thought to fall under the category of "identity-relevant stressors" (see Thoits, 1991).

Role expectations are an important concept when understanding illegitimacy of tasks. Expectations regarding the appropriateness of tasks are tied to an employee's role within the organization (Ilgen & Hollenbeck, 1991) and these expectations convey the boundaries of what can reasonably be asked of that role occupant. For example, managers may be expected to handle delegation of subordinate duties and monitor performance, and a teacher may be expected to create lesson plans for their classes and grade assignments. Similarly, a nurse may be expected to give medicine, provide wound care, and repeatedly check on a patient's vital signs. These expectations can form a role-based

identity. Formally, role-based identities are the goals, values, beliefs, and norms typically associated with the role in the organization (Ashforth, 2001). According to Thoits (1991), role-identities give individuals a sense of meaning and purpose. A role can carry fairly clear rights and obligations in relation to others (Thoits, 1991) and are often held with a sense of pride. For example, nurses often independently wear different types or colors of scrubs depending on their specialty.

The roles employees fill in their jobs not only convey what can be expected of them but what *cannot* be expected of them (Semmer et al., 2010). Illegitimate tasks are a violation of the line between what an employee believes falls within their role boundary and what does not. For example, imagine an administrative assistant whose job revolves around bookkeeping, data entry, and answering phones. Suppose a company executive has his or her child at work for a few hours and asks the administrative assistant to entertain the child while the executive is in a meeting. It is quite possible that the administrative assistant would feel “this is not my job!” while trying to amuse child in the office environment. Or imagine a busy nurse who is asked to mop the ward floor by an attending physician, a task typically done by janitorial staff. These examples may be considered illegitimate because they are outside of the accepted role boundaries.

Illegitimate tasks are not necessarily demoting tasks, however. Illegitimacy can also be experienced in an upward fashion. For example, asking a paralegal to hold a meeting with a client, something that is actually within an attorney’s role, may be perceived as illegitimate because it is a task above the paralegal’s credentials or training. Or consider a nurse who is put in the position of having to deliver the bad news to a family, a task the

primary physician would typically do. These are aberrations to reasonable role boundaries and are considered examples of illegitimate tasks.

Illegitimacy can also be perceived when required tasks are thought to be unnecessary. For example, filling out an excessive amount of paperwork that no one ever sees might be considered illegitimate. Or being held to policies or procedures which make no sense, such as having to meet an arbitrary deadline.

An important consideration is that illegitimate tasks are based on *perceptions* on the part of the employee. In other words, the social meaning of the task, not the task itself, is the stressful component of the event. Tasks within the “illegitimate tasks” domain are not necessarily inherently demanding or stressful in isolation. For an illustrative example, Semmer (2010) describes a nurse providing care to a patient, checking on their condition, providing them food and drink, assisting them to the bathroom and helping with bathing. These tasks would not be deemed particularly stressful and are expected as part of the job. However, now imagine the patient recovers and continues to ask for the nurse’s service for things he could do by himself (e.g. fluff a pillow; spoon feed). Now, these same tasks have become stressful and the nurse may feel “We are not a hotel and I am not a maid!” (Semmer, 2010, p. 4). This is the same set of tasks in both scenarios. Yet, in the latter, the tasks are stressful and emotive for the nurse because they are now perceived in a different context.

In general, perceiving that a task is either outside the employee’s professional role or should be done by others or could have been avoided or seems pointless is indicative of an illegitimate task episode. In other words, when employees are asked by supervisors, coworkers, or clients to do things that they feel “should not have to do” because someone

else should do it (i.e. mop the ward floor) or because the task is unnecessary (i.e. feeding a patient who is capable of eating on their own), perceptions of illegitimacy are likely.

The construct validity of illegitimate tasks. Because illegitimate tasks are a relatively new research direction in the occupational stress literature, scrutiny has risen over the construct domain space and the dimensionality of illegitimate tasks (see Semmer et al., 2012). In particular, questions of how illegitimate tasks differ from other established stressors such as justice and role conflict have been raised in critical dialog among researchers. In addition, inquisition about the underlying dimensionality of illegitimate tasks has been an empirical pursuit. The current understanding of both the discriminant validity and construct dimensionality of illegitimate tasks will be elaborated upon here.

First, it is important to consider the relationships between illegitimate tasks and concepts of fairness and justice at work. In particular, illegitimate tasks may have some relation to distributive justice, or the fairness of outcomes in organizations (Adams, 1963). Task assignments represent outcomes (Semmer et al., 2012) and thus a relationship between illegitimate tasks and perceptions of distributive justice is likely. In addition, when these outcomes have violated fair procedures or convey disrespect towards the employees on the part of other members of the organization, perceptions of procedural and interpersonal justice may also be affected. In addition, models of fairness and justice within the occupational stress literature suggest that employee strain can be expected when employees feel they are investing more effort into the organization than they are being rewarded for (i.e. effort-reward imbalance; Seigrist 1996; Seigrist, 2002).

Illegitimate tasks could be thought to involve an over expenditure of effort. Thus, some conceptual overlap between illegitimate tasks and concepts of fairness is evident.

However, Semmer and colleagues (2012) have suggested that illegitimate tasks are a special case of unfair treatment that is specific and left uncovered by theories of injustice. Semmer et al. (2012) have pointed out that illegitimate tasks add a unique and new aspect to this area of research as most research on justice to date has not focused on tasks or task characteristics. Rather the bulk of attention has been given to allocation of positions, resources, and rewards (c.f. Colquitt, 2001). In addition, justice theories generally deal with reactions to situations once they have already been perceived as illegitimate, but do not speak to *why* tasks are perceived as illegitimate in the first place. Understanding why tasks are perceived as illegitimate can be achieved through considering how it compares with norms and the offense to self. In fact, empirical work has demonstrated that illegitimate tasks predict self-esteem, feelings of resentment toward one's organization, burnout, and strain above and beyond distributive justice (Semmer et al., 2012). Thus, the concept of illegitimate tasks is a unique and special example of a workplace stressor that falls under the broad umbrella of fairness theories, but has not yet been covered in the literature. Due its distinction, this construct may be best studied in a unique theoretical framework, Stress as Offense to Self, which will be explained in detail later.

Another potential conceptual overlap is between illegitimate tasks and role conflict. Role conflict is defined as receiving incompatible demands concerning work issues (Rizzo, House, & Lirtzman, 1970) and one form of role conflict, person-role conflict, refers to conflict between a person's internal standards or values and the defined

role behavior (Rizzo et al., 1970). This particular form of role conflict may appear to overlap with illegitimate tasks on some level. However, it may be argued that by definition, illegitimate tasks fall outside the “defined role behavior” and thus are not referring to *within role* issues an employee has with their job. Moreover, Semmer et al. (2012) have noted that person-role conflict is typically thought to refer to moral issues, but moral dilemmas are not conceptually associated with illegitimate tasks. Lastly, in a study by Semmer and colleagues (2012) aimed at exploring the unique variance accounted for by illegitimate tasks above role conflict, illegitimate tasks demonstrated unique predictive power for strain outcomes in a heterogeneous sample of employees above and beyond role conflict.

In sum, while the novel nature of this particular workplace stressor warrants some thoughtful discussion of conceptual overlap with established stressors, namely organizational justice and role conflict, theoretical propositions and empirical evidence suggest illegitimate tasks to be a unique stressor.

Another topic of scrutiny surrounding this relatively new construct is the dimensionality of illegitimate tasks. There are two conceptual underlying subdimensions of illegitimate tasks. However, empirical work has failed to support a distinction between them and has suggested a unidimensional factor (Semmer et al., 2012). However, an explanation of the subdimensions of the construct is worthwhile. These subdimensions are *unreasonable* tasks and *unnecessary* tasks. Unreasonable tasks are those that seem to fall outside the range of the occupation, do not match training or level of experience, or involve unduly restrictive rules. Unreasonable tasks include asking an employee to do tasks they are not trained to do or hired to do (e.g. asking an administrative assistant to

provide child care for executives) or do not match skill or experience level. Tasks may also be unreasonable in the sense that they are not appropriate to ask of that specific person because others should be filling that role. Returning to a prior example, asking a nurse to deliver bad news to a patient's family may be considered illegitimate because this task is typically done by the primary physician. Also associated with unreasonable tasks are those that are unduly restrictive such as not being allowed to listen to the radio even when working in complete isolation.

Unnecessary tasks represent the other subdimension. These tasks represent organizational inefficiencies or idiosyncratic practices or preferences of the organization or supervisor. They also include unnecessary tasks or tasks that should not have to be carried out at all or tasks that could have been avoided (Semmer et al., 2010). For example, filling out paperwork that asks the same information more than once may be seen as inefficient and unnecessary or filling out paperwork that no one ever sees. Further, doing tasks a certain way simply because a supervisor wants it done "their way" falls in the unnecessary tasks category (Semmer et al., 2012). Previous literature about the nature of unnecessary tasks suggests that a task may feel unnecessary for two reasons: the task itself or the process of developing the need for the task itself (Semmer et al., 2012). In other words, tasks may be considered unnecessary because the task itself is pointless or serves no meaningful purpose (e.g. organizing waiting room magazines alphabetically each morning) or because the decisions that led to the existence of the current task have created the unnecessary work (e.g. the decision to purchase new computer equipment that is incompatible with the old equipment was inconsiderate and now requires data to be entered twice on each system).

However, as mentioned, empirical work surrounding the dimensionality of illegitimate tasks has shown that a unidimensional, one factor model best fits the data in several samples (Semmer et al., 2012). Thus, while subconstructs can be identified, the empirical evidence suggests the shared communality between these dimensions is very high; enough to warrant future work on this topic approach it as a unidimensional construct.

In sum, the conceptual distinction of illegitimate tasks from other established stressors (i.e. injustice and role conflict) as well as prior work pointing to one underlying factor, supports the position of the current research approaching the construct as a unique, novel, and unidimensional occupational stressor.

Theoretical frameworks. Demands to perform illegitimate tasks are conceptualized as stressful work events. Several theoretical frameworks can be used to provide the rationale for this notion including identity-relevant stressors (Thoits, 1991), the Stress as Offense to Self framework (Semmer et al., 2007), and the stressor-strain model (Jex, 2002).

First, the concept of identity-relevant stressors was described by Thoits (1991) and suggests that events that disrupt or threaten role-identities are psychologically damaging. Roles are sets of behavioral expectations which are attached to positions in the social structure (Thoits, 1991). Identities can be based on our role in reference to others and convey information about who a person is and how a person ought to behave. Roles are normative and the adequacy of filling one's role or failing to fill one's role has implications for self-evaluation. Thoits (1991) suggests that when a person is unable to appropriately fill a role associated with their self-identity, it can have negative impacts on

the development and maintenance of healthy psychological well-being. In addition, it can be expected to reduce self-esteem, an idea that parallels those in the Stress as Offense to Self framework, discussed next. Some empirical work has shown that negative events that are not consistent with the self-schema of an individual can lead to depressive symptoms (Hammen, Marks, Mayol, & DeMayo, 1985). In sum, the general notion posited by Thoits is that events or stressors which disrupt or threaten to disrupt an individual's role-identity should be more psychologically damaging than stressors that are identity-irrelevant. As such, it can be expected that identity-relevant stressors are predictors of psychological distress. This notion may in part explain why previous work has shown that illegitimate tasks predict psychological injury even when controlling for non-identity relevant stressors (e.g. Semmer et al., 2012).

When considering the ideas surrounding identity-relevant stressors, the potential significance of studying illegitimate tasks is emphasized. Illegitimate tasks contradict the professional role norms an employee has within the organization and in turn illegitimate tasks may function as a potential threat to identity. This threat to identity may be related to psychological damage. Additionally, illegitimate tasks may also disrupt or prohibit adequate fulfillment of one's professional role. When roles are not fulfilled, decreases in self-esteem are expected (Thoits, 1991) and therefore a decrement to self-esteem may result from the experience of illegitimate tasks. Thus using an identity-threat framework (Thoits, 1991), being required to perform illegitimate tasks can be considered a stressor that may have meaningful consequences to employee self-evaluation and well-being.

Secondly, the Stress as Offense to Self framework (SOS; Meier, Semmer, & Spector, 2012; Semmer et al., 2007; Semmer, McGrath, & Beehr, 2005) suggests that

preserving self-worth is an important human goal. Inherently, we strive to maintain our own sense of self-worth and self-esteem as well as others' opinions of our worth (Baumeister, 1998). The pursuit of self-esteem is so omnipresent that many researchers have approached it as a universal and fundamental human need (Allport, 1955; Maslow, 1968; Rogers, 1961). Generally, feelings that we are valuable, competent, and moral are important self-perceptions. In turn, threats to self-worth or self-value which are attached to a stressor represents the potential to degrade psychological well-being. In the SOS framework, the proximal cause of psychological strain is thought to be damaged self-esteem. The SOS model takes a somewhat different perspective on the stress process in the sense that previous models approach self-esteem as either an outcome of a stressor (e.g. Frone, 2000; Kivimaki & Kalimo, 1996), as a buffer (e.g. Jex & Elacqua, 1999), or personal resource in the stress process (e.g. Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). Instead, the SOS framework models self-esteem as a core aspect of the experience of a stressor (Meier et al., 2011).

As outlined by Semmer et al. (2007) and Meier et al. (2011), broadly, the SOS perspective posits that stressors can be meaningful to individuals because they threaten a positive view of the self. Two means to degraded self-worth are suggested. First, an individual may experience threats to self-esteem through personal failure, demonstrations of a lack of competence, or behaviors that indicate a lack of moral strength, all of which can have internally attributed causes. This particular pathway is called "Stress as Insufficiency (SIN)". Alternatively, self-esteem can also be threatened through disrespect from others. For example, various forms of unethical behaviors or inconsideration by others can convey disrespect which threatens individual self-esteem. This pathway is

coined “Stress as Disrespect (SAD)”. Thus, both failure to meet self-prescribed standards for positive self-evaluation as well as external social cues conveying disrespect from relevant others can threaten one’s sense of worth and self-esteem (Meier et al., 2011; Semmer et al., 2007).

When threats to self are present in the workplace (i.e. lack of fairness or lack of reciprocity, exclusion or disrespect, mistreatment, illegitimacy), self-esteem may be thwarted. Semmer et al. (2010) argue that violations of role norms are often considered offending and threatening to one’s self-worth. The reason that role violations can convey insufficiency or disrespect is because one’s broader sense of self is tied to one’s organizational role. One’s professional role identity is a form of social identity (Warr, 2007) and a part of global identity (Stryker & Burke, 2000) and thus inherently tied to one’s sense of self (see Sluss & Ashforth, 2007). Following this logic, tasks at work can affirm one’s professional identity when they coincide with role expectations, but damage one’s professional identity when they are in violation of role expectations. Therefore, illegitimate tasks, especially because they are inherently tied with signals of disrespect for one’s role, should threaten one’s sense of self and self-esteem. In fact, previous work examining illegitimate tasks within the SOS model has demonstrated illegitimate tasks to be related to degraded self-esteem (Semmer et al., 2011). In sum, because illegitimate tasks are thought to offend one’s sense of self, they are therefore considered relevant psychological stressors that can have negative impacts on employee well-being within the Stress as Offense to Self framework (Semmer, 2007). This model is the primary framework on which the current research hypotheses are based.

Finally, acknowledgement of the broader stressor-strain framework (Jex, 2002) is appropriate and relevant to the current research. The stressor-strain framework is a major model in the occupational stress literature especially in cases where workplace stressors are studied in relation to employee health. This model is the basis of much research in occupational health psychology and rests on the idea that stressors (events, characteristics, or aspects of one's environment), may produce strain, or maladaptive responses to stressors (Jex, 2002). In line with this, the current study can be approached as a test of the stressor-strain model, where one workplace stressor, namely being required to perform illegitimate tasks, is expected to impact employee health outcomes.

In fact, the theoretical notions about performing illegitimate tasks as a relevant occupational stressor have been empirically examined. However, compared to the breadth of research on the broader set of stressors in the occupational health psychology literature, the surface has only been scratched with this relatively new direction of research. As mentioned earlier, illegitimate tasks have been shown to relate to reduced employee well-being including self-esteem (Semmer et al., 2012). Additionally, this study demonstrated frequency of illegitimate tasks to be related to feelings of resentment towards one's organization and burnout even after controlling for role conflict, social stressors, and distributive justice. In addition, Semmer et al. (2010) demonstrated that illegitimate tasks to be associated with counterproductive work behaviors, with a particularly strong relationship to incivility against supervisors. Thus, evidence for the main effects of illegitimate tasks on self-esteem, a set of psychological health indicators, and some performance-related behaviors has previously been demonstrated, but more

research is needed to explore a wider range of relevant dependent and mediating variables.

Illegitimate tasks and well-being. As mentioned, the acceptance of illegitimate tasks as an occupational stressor introduces the question of how and why these forms of task assignment may affect employee health and well-being and what set of outcomes may be most relevant. A review of each of the outcome variables in the current research that are expected to show links to the experience of illegitimate tasks follows.

Self-esteem. Self-esteem is one employee well-being marker that has been shown to be highly relevant to several work-related outcomes including overall job satisfaction and job performance (Judge & Bono, 2001). This outcome may be particularly relevant to the current research as previous work suggests that demands to perform illegitimate tasks are expected to degrade self-esteem (Semmer et al., 2007). As outlined in the SOS framework, illegitimate tasks damage self-esteem because they can suggest a failure to meet an ideal self and can signal poor social standing. Self-esteem on both personal and social levels can be affected. Illegitimate tasks may lead to degraded personal self-esteem through negative internal attributions such as feeling like a failure and may lead to a degraded social self-esteem through disrespectful gesturing by others (Semmer et al., 2007). In fact, as described earlier, empirical work has linked illegitimate tasks and self-esteem (Semmer et al., 2007; Semmer et al., 2011).

Importantly, the SOS framework does not suggest that every illegitimate task experience will necessarily degrade self-esteem. While it is posited that illegitimate tasks *threaten* self-esteem, people use various strategies to protect themselves from experiencing damage to self-worth or self-esteem (Baumeister, 1998; Crocker & Park,

2004). Therefore, while experiences of illegitimate tasks may represent a threat to self-esteem, people have the ability to dismiss instances of threats and protect themselves from true degradation in self-esteem (Meier et al., 2011). Considering these theoretical positions, it may be the chronic experience of illegitimate tasks in a job that demonstrates the most salient impact on self-esteem. Similarly, threats from illegitimate tasks that present themselves over the course of several days may accumulate and in turn degrade self-esteem in a more obvious way than would one isolated event that may be more easily dismissed. However, the current standing of the literature has not yet addressed these particular research questions pertaining to isolated vs. chronic illegitimate task experiences and self-esteem degradation.

Additionally, the vast majority of research on self-esteem has focused primarily on trait level self-esteem, or whether an individual characteristically tends to hold high or low self-regard. However, following the propositions of the SOS framework, it may be the *state level* self-esteem that is particularly sensitive to the role violations experienced with illegitimate tasks. State level self-esteem may be particularly important and informative when exploring this particular occupational stressor. Interestingly, a more recent research trend has emerged which explores state level self-esteem responses to negative events such as receiving negative feedback and social exclusion (Guay, Delisle, Fernet, Julien, & Senécal, 2008; vanDellen, Bradfield, & Hoyle, 2010). This type of focus on state level self-esteem may also be quite valuable in the current research, especially because self-esteem is thought to fluctuate within individuals across days, depending on certain daily events such as a success or failure at work (Crocker & Wolfe, 2001). In addition, the distinction between global and state self-esteem may be quite

distinct and should be given individualized research attention (Heatherton & Polivy, 1991). This leads to the first hypothesis:

Hypothesis 1: Within individuals, illegitimate task episodes will be negatively related to state self-esteem both a) within days and b) across days.

Discrete emotions and fatigue. Illegitimate tasks may also lead to degraded psychological health because they can convey social cues such as disrespect from others or lack of appreciation. As explained, illegitimate tasks can communicate social devaluation to individuals in the workplace (Semmer, 2007). According to the SOS and stressor-strain models, it could be expected that negative discrete emotions such as feeling anger or depressive symptoms may be affected by such experiences. In fact, prior research has established a negative relationship between constructs related to illegitimate tasks, such as unfairness, with negative emotions (Mikula, Scherer, & Athenstaedt, 1998; Weiss, Suckow, & Cropanzano, 1999).

However, discrete emotional responses to illegitimate tasks per se have not yet been fully explored. This may be a particularly important research direction because negative emotional responses to illegitimate tasks may in turn lead to more severe well-being decrements over time or retaliatory behaviors such as counterproductive work behavior or aggression (Fox & Spector, 1999). In fact, illegitimate tasks have been found to be associated with retaliatory behaviors such as counterproductive work behavior (Semmer et al., 2010), but the potential role of negative emotions in the experience of illegitimate tasks is yet to be fully established.

One study has examined two forms emotional response to illegitimate tasks. Semmer et al. (2012) successfully demonstrated illegitimate tasks to be related to feelings

of resentment and irritation in employees over time. However, more research on discrete emotional responses is necessary to get a complete picture of the emotional reactions to these events. In fact, Semmer et al. (2012) called for future research to explore the experience of discrete emotions related to illegitimate tasks because threats to or degradations of self-esteem may coincide with emotional reactions such as feelings of anger (Dickerson, Gruenewald, & Kemeny, 2004). In other words, it is yet to be fully explored whether immediate responses to illegitimate tasks include a broader range of affective reactions. Thus, discrete emotional states represent another focal dependent variable in the current study. In particular, anger and depressive mood are included in the present study to follow-up on calls for research with these types of emotional responses (Semmer et al., 2012) as they may be especially sensitive to threats to self-esteem.

Anger is a strong negative emotion of extreme annoyance or hostility and is commonly found as an outcome to unfair treatment (Cohen-Charash & Spector, 2001). It is therefore expected that anger will emerge as a result of illegitimate tasks. Additionally, depressive symptoms may be experienced as a result of illegitimate tasks as sadness is an affective reaction that follows negative events, especially those associated with failing to be accepted and included socially (Baumeister & Leary, 1995).

In addition, fatigue and exhaustion are commonly studied in relation to psychosocial work stressors and tend to intensify when stressors are high (Melamed, Shirom, Toker, Berliner, & Shapira, 2006; Pelfrene, Vlerick, Kittel, Make, et al., 2002). Employee fatigue is a particularly important outcome because it is a marker for employee burnout and ill health (Fimian & Fastenau, 1990; Melamed, et al., 2006). Additionally, preventing employee fatigue may be particularly important for occupational groups

working in high stakes situations such nurses or transportation workers (Noy et al., 2011). Thus, exploring the link between illegitimate tasks and reports of fatigue is included as a primary aim in this study.

Hypothesis 2a: Within individuals, illegitimate tasks will be positively related to negative discrete emotions of anger and depressive mood both a) within days and b) across days.

Hypothesis 2b: Within individuals, illegitimate tasks will be positively related to fatigue both a) within days and b) across days.

Job satisfaction. In addition to having an impact on self-esteem and discrete emotions, demands to perform illegitimate tasks are expected to demonstrate a negative relationship with job satisfaction. Job satisfaction is how people feel about their job overall or the extent to which an individual likes or dislikes his or her job (Spector, 1997).

The expectation of illegitimate tasks to relate to job satisfaction is based on the premise that characteristics of the tasks of one's job have been shown to impact job satisfaction (Fried & Ferris, 1987). According to Job Characteristics Theory, task characteristics are thought to impact job satisfaction (Hackman & Oldham, 1975). Furthermore, illegitimate tasks are connected to ideas within justice and fairness theory (Folger & Cropanzano, 2001) and fall under the broader domain of justice at work (see Semmer et al., 2007). As mentioned, although related, illegitimate tasks are distinct in that they are task-focused and not covered by the organizational justice dimensions (Semmer et al., 2010). However, the injustice literature can help inform hypotheses about illegitimate task experiences and job satisfaction outcomes. In fact, based on the findings

of a meta-analysis, injustice at work has been consistently shown to have a negative relationship with job satisfaction (Colquitt, Conlon, Wesson, Porter, & Ng, 2001) and thus, it is hypothesized that illegitimate tasks will demonstrate a similar negative relationship.

Hypothesis 3: Within individuals, illegitimate tasks will be negatively related to job satisfaction both a) within days and b) across days.

Sleep quality. Lastly, sleep quality will be used as an indicator of well-being.

Sleep problems are an important health indicator as they have been linked to a variety of physical and mental health outcomes (e.g. Gillin, 1998; Nakata et al., 2000; Strine & Chapman, 2005). For example, poor sleep quality has been suggested as a risk factor for myocardial infarction and coronary heart disease (Strine & Chapman, 2005) and has been reported to relate to general physical ailments such as gastrointestinal problems (Kuppermann et al., 1995) as well as mental health indicators like depressive symptoms (Gillin, 1998).

Previous work has shown that characteristics of the work environment can impact sleep quality (Pelfrene et al., 2002). In addition, psychosocial job stressors have been shown to be related to sleep problems (Doi, Minowa, & Tango, 2003; Nasermoaddeli, Sekine, Hamanishi, & Kagamimori, 2002). For example, general reports of high work demands have been linked to sleep problems (Akersedt et al., 2001; Pelfrene et al., 2002). Interestingly, trouble sleeping may be particularly relevant to role-related stressors at work. In one recent study, role conflict was positively associated with difficulty initiating sleep at night and likelihood of reporting non-restorative sleep in a sample of over 1700 full-time American employees (Knudsen, Ducharme, & Roman, 2007). Role conflict has

also been linked to falling asleep while on the job (Nakata, et al., 2004). However, although sleep problems may be particularly affected by psychosocial job stressors (Pelfrene et al., 2002), this outcome has been particularly understudied compared to other measures of workers health (Linton, 2004; Nasermoaddeli et al., 2002). Based on previous research with psychosocial stressors, including role-related stressors such as role conflict, it is expected that illegitimate tasks will have a negative impact on sleep quality. In particular, it is expected that illegitimate tasks experienced during the work day will disturb sleep quality that night and therefore be associated with reports of sleep quality the following morning.

Hypothesis 4: Within individuals, illegitimate tasks during day i will be negatively related to sleep quality as measured in the morning of day $i + 1$.

Trait self-esteem. In addition to measuring state self-esteem as a proximal, fluctuating variable associated with threats incurred by illegitimate tasks, trait level self-esteem will be assessed as a potential moderator of illegitimate task-strain outcomes. The underlying idea is that high levels of trait self-esteem may reduce the ability of threats to self-esteem (i.e. illegitimate tasks) to enact real change in state level feelings or outcomes. In other words, perhaps individuals with high levels of global, stable self-esteem are less vulnerable to threats than those with low levels of trait self-esteem. As mentioned, the majority of work on self-worth and self-esteem has explored trait level factors, and much of this work supports the notion that self-esteem can function as a protective resource during the experiences of stressors (e.g. Xanthopoulou et al., 2007). In fact, some work has shown that high and stable trait level self-esteem can moderate the effects of unfair treatment at work on both chronic and daily depressive mood levels such

that trait level self-esteem is protective against the expected negative impact on depressive symptoms (Meier, Semmer, & Hupfeld, 2009). In addition, some researchers have shown that unfair treatment at work relates to negative employee attitudes such as low organizational commitment for individuals with low (but not high) self-esteem (De Cremer, van Knippenberg, van Dijke, & Bos, 2004). Thus, the expectation is that high trait level self-esteem could function as a buffer between the experience of illegitimate tasks and resulting negative outcomes.

Hypothesis 5: Within individuals, illegitimate tasks will be more strongly, negatively related to employee well-being outcomes when trait level self-esteem is low rather than high.

Advancing the Illegitimate Tasks and Health Link

Work by Semmer and colleagues (Semmer et al., 2007; Semmer et al., 2010, Semmer et al., 2012) represents the seminal contributions establishing the theoretical framework in which to study illegitimate tasks. These previous efforts have established illegitimate tasks as a meaningful workplace stressor, developed a reliable measure for the construct, and linked illegitimate tasks to important employee well-being outcomes such as burnout. However, building upon this research, there are two notable areas for potential advancement that the current study aims to address. First, previous work has approached the study of illegitimate tasks as workplace stressor by laying the groundwork with basic methods (i.e. Semmer et al., 2010; Semmer et al., 2012). For example Semmer et al. (2010) used a cross-sectional design where researchers asked participants to respond to survey items about how frequently they experience illegitimate tasks at work and their own counterproductive work behaviors. Semmer and colleagues

(2012) helped to move beyond initial cross-sectional methods by employing a longitudinal design to explore effects in a two-time point study. However, additional rigorous research designs could help contribute to a process-based understanding of this stressor. In sum, advanced methodology is needed in order to better meet the criteria for causal links and to strengthen the literature.

Second, while several important employee outcomes have already been shown to be tied to the experience of illegitimate tasks at work (i.e. self-esteem, resentment, and burnout, Semmer et al., 2012; and counterproductive work behavior, Semmer et al., 2010), work is needed to address a wider range of psychological well-being indicators. For example, discrete emotions such as feeling anger may be important outcomes of illegitimate tasks but have not yet been studied. Also, employee health is generally thought to have psychological, physical, and job-related components (Kahn & Byosiene, 1992) but thus far only psychological outcomes have been examined. Thus, attitudinal and physical indicators of well-being have been included in the present work.

The current study addresses the first issue by using advanced sampling methodology. Daily diary sampling allows the researcher to meet more of the criteria for causal conclusions. Daily diary studies capture day to day fluctuations in an individual's experience of the stressor and their psychological and physical states. Daily diary methods allow the researcher to examine the dynamic relationship between variables, rather than arbitrarily picking one or two time points for measurement. This design can better tap into the daily effects of illegitimate tasks on health rather than the chronic effects which would contribute to the body of existing research. Furthermore, this design

relies less on retrospective recall of participants because measures are taken on a frequent time schedule each day and may thus render more accurate reports.

As such, in this study a daily diary method was used in which illegitimate tasks at work were measured every day for two weeks. In addition, psychological outcomes were measured three times daily for two weeks, allowing for more sensitive measures of daily variations in outcomes. This method provides an advantage because it allows within-subjects analysis in addition to between-subjects analysis.

Lastly, expanding the nomological network of illegitimate tasks was an aim of this study. First, additional discrete emotions were studied in relation to the experience of illegitimate tasks. Second, because employee health includes psychological, physical, and job-related components (Kahn & Byosiere, 1992), job satisfaction (a job-related health outcome) and fatigue and sleep quality (physical health outcomes) were included to explore these two additional aspects of employee health.

Chapter Two Method

Data were collected using daily diary methodology. The duration of the participants' involvement was two working weeks. Participants completed an initial Time 1 survey and filled out subsequent daily surveys (three times daily on work days) for two weeks. Additional details of the procedures are described below and Figure 1 depicts a graphical representation of the study procedures and timeline for participants. IRB approval was obtained for this study.

Participants

Primary participants were recruited via university advertisements and flyers posted around the community. Administrative employees at the University of South Florida campus were targeted due to this population's high likelihood of computer access during the workday. Convenient access to a computer during the workday was a recruitment consideration because this was expected to increase compliance and reduce workday intrusion. Subjects were also recruited from the community at large; however, many participants were identified through previous participants voluntarily providing recruitment information to their professional networks. Sixty-two percent of the final sample was comprised of university staff and personnel, with the next highest category represented being from the healthcare industry (11%).

In order to meet necessary criteria for adequate power while accounting for attrition rates, a sample size of 100 subjects was targeted. Scherbaum and Ferreter (2009)

showed that with a Level 1 (number of days) sample size of $N=10$, a Level 2 (participants) sample size of $N=35$ is enough to detect medium effect sizes for fixed effects. However, estimates of statistical power for detecting cross-level interactions are more complex and no clear formula for general cases of complex multilevel models exist (Snijders, 2005). In general, complex multilevel models have less power than fixed effects, therefore, a Level 2 sample size of approximately $N=80$ was considered to be more appropriate for the present study and in line with previous studies of a similar design (Ohly, Sonnentag, Niessen, & Zapf, 2010). The expected rate of attrition was 20%, based on rates obtained in similarly designed daily diary studies (Ohly, et al., 2010). Thus, full data for 80 participants was anticipated. Recruitment goals were met with one hundred participants enrolled and an ideal 0% attrition rate was fortunately achieved.

Participants had to meet the following criteria: be 18 years or older, work 35 or more hour per week, be able and willing to fill out internet-based surveys, and be fluent and literate in English. Post data collection, an additional inclusion criterion was established: participants must also have tenure at their current position for at least 1 year. This criterion was adopted to ensure employees had adequate time in their jobs to develop a role identity with the organization. Because the Stress as Offense to Self framework (Semmer et al., 2007) is thought to function on self-esteem and well-being based on the premise that employees have role identities that may be threatened by the experience of illegitimate tasks, it is necessary to consider whether the employee has an established role identity with their organization. In the first months of work, one's role identity may still be developing. In fact, research on newcomer socialization, which is a

consistent predictor of role orientation (Saks, Uggerslev, & Fassina, 2007) or one's conformity to established roles and procedures and enacting those roles (Jones, 1986), commonly focuses on the first year of employment (e.g. Bauer & Green, 1998; Saks et al., 2007; Wanberg & Kammeyer-Mueller, 2000). Because one's orientation to their role is theoretically still being formed during that first year, these employees were excluded. Thus, of the 100 participants who enrolled in the study, 90 met all of these criteria, including having tenure of at least one year, and in turn the final sample was 90 subjects which is still a 10% higher final sample size than anticipated. The ten subjects that were excluded due to a tenure of less than 1 year were similar to the included sample in that these ten subjects worked a similar number of hours per week (mean = 39 hours) and were similar in gender composition as most were female (6 female, 4 male). Of the ten, five worked in education, two in healthcare, two in retail, and one in technology. These ten subjects were an average of 10 years younger than the final sample (mean age = 33 vs. 43), and five of the ten held a master's degree.

In the final sample, (of 90 subjects), a majority of were female (87%). The sample was also highly educated with 88% having had some college level education or greater and 28% having some graduate level education or a graduate degree. Participants were full-time employees with an average number of working hours per week of 40.56 hours, $SD = 5.61$ hours. Thus, the ten subjects excluded based on tenure criteria were not largely different than the final sample. Furthermore, analyses were run with both sets of data (both using the entire sample of 100 subjects and the restricted sample of 90 subjects) to determine how much impact this exclusion criteria had on the final results. Overall, the

pattern of results was similar¹. Of the 44 bivariate relationships tested, only 6 results were different between the samples and no changes to cross-level interactions resulted.

Upon completion of the study, participants received \$75 in the form of a VISA gift card for their time. Participant payment was not contingent upon completion or compliancy. Nonetheless, no subjects withdrew from the study. The participant payment was funded by a grant received to conduct this dissertation research from the Sunshine Education and Research Center at the University of South Florida. The Center is supported by Training Grant No. T42-OH008438 from the Centers for Disease Control and Prevention/National Institute for Occupational Safety and Health (NIOSH).

Procedure

Informed consent and participant training. After participants were identified, they scheduled an initial meeting and training session with the principal investigator. At this time, subjects provided informed consent. A study code was generated for each subject, which was used for every survey and diary completed throughout the length of the study, allowing the matching of diaries within subjects. Subject codes, rather than names, were provided to offer a level of anonymity to subjects when completing study scales.

¹ Using the additional exclusion criteria resulted in the following changes: One weak bivariate relationship between illegitimate tasks and anger became non-significant (the coefficient became weaker by .05), one bivariate relationship with depression became significant (the coefficient became stronger by .03), one bivariate relationship with job satisfaction become significant (the coefficient became stronger by .03), one bivariate relationship with fatigue became significant the coefficient became stronger by .02), and finally, two bivariate relationships with state self-esteem became significant (the coefficients became stronger by .03 and .02).

Also at the time of enrollment, study-related training was administered to all participants. The data collection procedures were described to the participants in great detail and broad explanations of why the procedures were designed as they were, were given. Participants were trained in how to use the online survey website (on which all daily diary questions were answered) and received detailed instructions on taking the online daily diary measures at each of three time points (morning, mid-day, and after the close of the work day). After all study related information was conveyed and any questions answered, the subject completed the Time 1 scales. Participants were provided a study information sheet on which the instructions that had been given verbally were itemized in writing for their reference. In addition, participants wrote their own study codes on these sheets to remind them of their unique identifier. Personal contact information for the researcher was also provided. Participants were asked to add the researcher's e-mail address to their contacts to ensure that communications and study reminders would not be directed into their spam box. Participants were told to expect several e-mails from the researcher in order to remind subjects of the study procedures. In addition, participants were encouraged to get in contact by phone or e-mail should any questions or concerns arise as the daily diary weeks unfolded.

Data collection procedures. This study used a daily diary method meaning measurements were taken three times per day over the course of ten days. The duration of the daily diary period was 2 weeks. As mentioned, on the day of the informed consent, participants completed Time 1 scales (demographics, illegitimate tasks, overall job satisfaction, and trait self-esteem) on the online data collection server. On each of the following days for two weeks, participants filled out at-work daily dairies. On each

workday, participants were instructed to complete their first daily diary before starting their work shift, their second daily diary mid-day of their work shift, and their third daily diary after their shift was over. The daily diaries were comprised of scale items about experiences of illegitimate tasks, state self-esteem, discrete emotions, fatigue, and job satisfaction at each time point. Also, measures of sleep, which referenced the previous night, were included on morning dairies (but not the others). The online survey host recorded the date and time of completion for each daily diary and this information was used to assess compliance with study procedures (which are described in more detail in the data structure and quality section). Almost all participants began their daily diary weeks on a Monday (although this was not required; there were some exceptions when participants had non-typical schedules). E-mail reminders were sent on the first Monday morning, the first Wednesday morning, the second Monday morning, and the final Wednesday morning to help participants remember to complete the diaries and to show encouragement and appreciation for their efforts as the data collection progressed. Also, compliance was checked throughout each participant's data collection weeks and if necessary, participants were provided individualized e-mail reminders. If participants were absent from work one day or simply missed diaries for one of their workdays, they were asked to add on an additional day at the end of their diary weeks to compensate.

Measures

All of the data (Time 1 and daily diaries) were collected through an online data collection server (www.SurveyMonkey.com). Due to the demanding nature of an experience sampling method, constructs were measured with very short scales in the daily diary portion. This is in line with previous research that has used experience-

sampling methods (e.g. Meier et al., 2009) or examined similar variables in an experimental setting (e.g. Weiss, 1999). All study scales are attached in Appendix A.

Demographics. Demographic information was collected at Time 1 including gender (coded males = 0, females = 1), age (in years), tenure in the current job (in years), hours worked per week, job title and industry, and education level.

Illegitimate tasks. Illegitimate tasks were assessed with the 8-item Bern Illegitimate Task Scale (Semmer et al., 2012). Response options for each item are on a 5-point scale ranging from never to frequently. Items were modified slightly to reflect daily tasks. An example item used in the daily diary portion is “Since the previous diary, did you have work tasks to take care of which kept you wondering if they make sense at all?”. Illegitimate tasks were assessed at the mid-day diary (which assessed illegitimate tasks experienced in the morning hours) and the evening diary (which assessed illegitimate tasks experienced in the afternoon hours). Of course, illegitimate tasks were not assessed on the diary before the start of the workday because illegitimate tasks at work would have not yet occurred at that time. Internal consistency of daily diary scales (for those with more than one item) was calculated using the methods for item-level reliability within a multilevel framework as described in Nezlek (2012). In this method, items are nested within occasions, and then nested within persons to create a three level measurement model. The item-level reliability of the scale is the reliability of the level-1 intercept. The mid-day measurement occasion was selected for the purposes of assessing internal consistency for the illegitimate tasks scale and was .81. Illegitimate tasks were also assessed at Time 1, using the original scale. Internal consistency of the scale at Time 1 was .87.

State self-esteem. State self-esteem was assessed with five items from the Rosenberg Self-Esteem Scale (Rosenberg, 1989). Items 1, 2, 4, 6 and 7 were selected and represent the items phrased in the positive orientation (the reverse-code items were not used). An item example is “I take a positive attitude toward myself.” The format is a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). State self-esteem was measured at each daily diary. Morning occasion scale internal consistency was .20.

Discrete emotions. Anger was measured with the three anger items from the Brief Symptom Inventory (Derogatis & Melisaratos, 1983). Items are on a 5-point scale (1 = not at all, 5 = very much). Morning occasion internal consistency for these items was .75. For the assessment of depressive mood, an adapted the scale by Warr (1990) was used. Participants indicated how they felt at that moment regarding depressive mood (depressed, miserable, gloomy) that was assessed on a 5-point scale (1 = not at all, 5 = very much). Morning occasion internal consistency for these items was .85. Discrete emotions were measured at each daily diary.

Fatigue. Fatigue was measured with one adapted item from the Physical Symptom Inventory (Spector & Jex, 1998). This item states “At this moment, are you experiencing tiredness or fatigue?”. The format was a 5-point Likert scale (1 = not at all, 5 = very much). Fatigue was measured at each daily diary.

Job satisfaction. Job satisfaction was assessed using one item from the Job Satisfaction scale from the Michigan Organizational Assessment Questionnaire (Cammann, Fichman, Jenkins, & Klesh, 1979). The 3-item scale was reduced to one item to reduce the demand of daily sampling. Empirical work comparing multi-item measures of job satisfaction to single item measures have supported the psychometric properties of

single-item overall job satisfaction scales (Dolbier, Webster, McCalister, Mallon, & Steinhardt, 2005). The selected item from the Michigan Organizational Assessment Questionnaire was “All in all, I am satisfied with my job”. The format was a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The single item measured was included in each daily diary. The full version of the Michigan Organizational Assessment Questionnaire was assessed at Time 1; internal consistency was .84.

Sleep quality. Sleep quality was assessed with three study-specific items. The items are “How many minutes did it take you fall asleep once in bed?” which was an open-ended question. The other two questions were “Did you feel rested upon waking?” with the format for this question on a 5-point Likert scale (1 = not at all, 5 = extremely) and “How was your overall sleep quality last night?” with the format for this question also on a 5-point Likert scale (1 = very poor, 5 = very good). These items were written based on previous work examining sleep quality, using a similar daily diary study design (Connelly & Bickel, 2011). Sleep quality was assessed during each morning diary in reference to the previous night.

Trait self-esteem. Trait self-esteem was assessed using the 10-item Rosenberg Self-Esteem Scale (Rosenberg, 1989). An item example is “I feel I have a number of good qualities.” The format is a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). This scale was administered at Time 1. Internal consistency was .85.

Data Structure and Quality

The data were structured such that daily diaries are nested within individuals, creating two levels: the day level (level 1) and the individual level (level 2). As described, the study took part over the course of two weeks. Participants completed, on

average, 10 working days of data collection, $SD = 1.4$ days. As signified, some participants completed more than 10 days of data collection. This is because several participants informed the principal investigator that they had either worked a half-day on one (or more) of their diary days (thus missing one or two of their diaries) or forgot to fill out dairies on one (or more) occasions during a workday. In these cases, the participants were asked to add on an additional full day of diaries (or two, if necessary) to compensate for their missing data. In turn, 18 of the participants had 11-13 dairy days. At level 1, data comprised of three observation points per day: morning/start of the workday, mid-workday, and evening/end of workday.

Participants were asked at the initial enrollment meeting about their schedules. Of the 90 subjects, 75 had work schedules that they identified as being Monday through Friday, with the hours of 9:00am - 5:00pm. For subjects working these “typical” schedules, compliancy was defined as follows: Before the start of the workday diaries must have been completed at 9:00am \pm 1 hour; mid-day diaries must have been completed at 12:00pm \pm 1.5 hours; and end of work day diaries must have been completed at 4:00pm \pm 1.5 hours. The morning diaries served as a baseline of well-being factors and therefore slightly more conservative compliancy criteria were used with the intention of reducing contamination of these measurements by workplace experiences. Furthermore, each diary was required to be at least 1.5 hours apart from surrounding diary entries to meet compliancy status. For example, if an employee filled out their ‘before the start of work diary’, or what from now on will be referred to as the “morning dairy”, at 9:00am, their mid-day diary at 1:25pm and their ‘after the end of the workday diary’ or “evening diary” at 2:45 pm, each of these meet the “time window” criteria, but

the evening diary does not meet the “spacing” criteria, and thus the evening diary would be considered noncompliant. For the 17 employees who reported shift-work or non-typical hours (i.e. staff members at a hospital), special considerations were made. Each of these employee’s diaries were examined individually for appropriate patterns and were evaluated on the spacing criteria only (each diary being at least 1.5 hours apart from surrounding entries). A time window rule was not applied for these participants as their schedules varied.

In total, 886 observations were collected in the morning. Of these observations, 853 met criteria for compliance, a 96.2% compliance rate. On average, each participant completed 9.37 *compliant* morning entries, $SD = 1.65$. In addition, 821 observations were collected at the mid-day time point with 777 compliant entries, a 94.6% compliance rate. On average, 8.24 compliant mid-day diaries per participant, $SD = 2.21$, were collected. Finally, a total of 712 observations were collected in the evening with 656 meeting the criteria for a 92.1% compliance rate. On average, participants completed 7.21 compliant evening diaries, $SD = 2.13$. Data that did not meet compliancy criteria was excluded in data analyses.

Data Analysis

In order to test the within-subjects hypotheses hierarchical linear modeling was used (HLM; Bryk & Raudenbush, 1992). HLM controls for the fact that the daily measurements (level 1 variables) are nested within individuals (level 2 variables), and are thus not independent of each other. HLM estimates parameters in a way that is similar to multiple regression, but differs in that the within-subjects coefficients serve as the dependent variables for the between-subjects regression model. Besides modeling nested

data, HLM has other advantages. It can control for previous measurements and it allows for estimations of linear change between variables even when data are incomplete (Beal & Weiss, 2003). Intra-class correlation coefficients (ICCs) for the dependent variables were calculated by dividing the proportion of cluster variance (between-person) over the total variance (within-person plus between-person) as specified in the unconditional models. All ICCs were above .26 (see Table 1) which confirms that there is enough between-person variance to model using HLM methods.

In the current study, random intercepts and slopes HLM models were used (random coefficient regression models for Hypotheses 1-4 and intercepts and slopes as outcomes model for Hypothesis 5). Each assumes that both the intercepts and slopes vary across individuals.

As described previously, illegitimate tasks were reported at mid-day and the evening. Thus, three focal independent variables were created: illegitimate tasks in the morning (as reported mid-day), illegitimate tasks in the afternoon (as reported in the evening) and the overall, day-level experience of illegitimate tasks (the average amount of illegitimate tasks across the day created by averaging the mid-day and evening reports). Similarly, well-being indicators were averaged to create day-level markers in across day analyses.

Furthermore, for all hierarchical linear models assessing hypotheses 1-3 and 5 (hypothesis 4 pertains to sleep), the morning measure of the dependent variable was entered as a control variable to parcel out the variance associated with the individuals emotional and attitudinal state upon starting their work shift. This allows better isolation of the effects of illegitimate tasks on the outcomes. All analyses were also run without the

control variable entered into the model. Results were similar². Furthermore, in testing the moderating effects of trait self-esteem on relationships between illegitimate tasks and well-being indicators, trait self-esteem was expected to impact both the intercepts and slopes. Thus, trait self-esteem was entered both in the intercept and slope level-2 statements. An example of the hierarchical linear models used follows:

Level-1 Model

$$\text{Anger_Evening}_{ij} = \beta_{0j} + \beta_{1j}*(\text{Anger_Morning}) + \beta_{2j}*(\text{BITS_Evening}) + r_{ij}$$

where, Anger_Evening = Anger measured at the evening occasion

Anger_Morning = Anger measured at the morning occasion

BITS_Evening = Illegitimate tasks measured at the evening occasion with regards to experiences of illegitimate tasks in the afternoon.

Level-2 Model

$$\beta_{0j} = \gamma_{00} + \gamma_{01}*(\text{Trait Self-Esteem}) + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + u_{1j}$$

$$\beta_{2j} = \gamma_{20} + \gamma_{21}*(\text{Trait Self-Esteem}) + u_{2j}$$

where, Trait Self-Esteem = Score on the trait self-esteem scale measured at Time 1

Mixed Model

² Six analyses (of 70 total) demonstrated a different outcome when the control variable was not included in the model. Without the respective morning values entered, illegitimate tasks only showed a trend toward predicting fatigue the following day (in the same direction as when the control variables were included, but weaker by .04); illegitimate tasks across the workday and trait self-esteem also only showed a trend toward predicting state self-esteem the following day (the coefficient became weaker by .03). In other words, these analyses (reported as significant in this paper) just barely dropped from being significant with the controls removed. Furthermore, one significant and two almost significant interactive effects emerged where illegitimate tasks and trait self-esteem interactively predicted evening fatigue (becoming significant and stronger by .04), depression across the day (becoming marginally significant and stronger by < .01), and anger across the following day (becoming marginally significant and stronger by .01).

$$\text{Anger_Evening}_{ij} = \gamma_{00} + \gamma_{01} * (\text{Trait Self-Esteem}) + \gamma_{10} * (\text{Anger_Morning}) + \gamma_{20} * (\text{BITS_Evening}) + \gamma_{21} * (\text{BITS_Evening} * \text{Trait Self-Esteem}) + u_{1j} * (\text{Anger_Morning}) + u_{2j} * (\text{BITS_Evening}) + u_{0j} + r_{ij}$$

Level-1 factors were entered group-mean centered and level-2 factors were entered grand-mean centered. As recommended by (Nezlek, 2012), the coefficients in all models were modeled as randomly varying, with an error term entered for each level-1 coefficient at level 2.

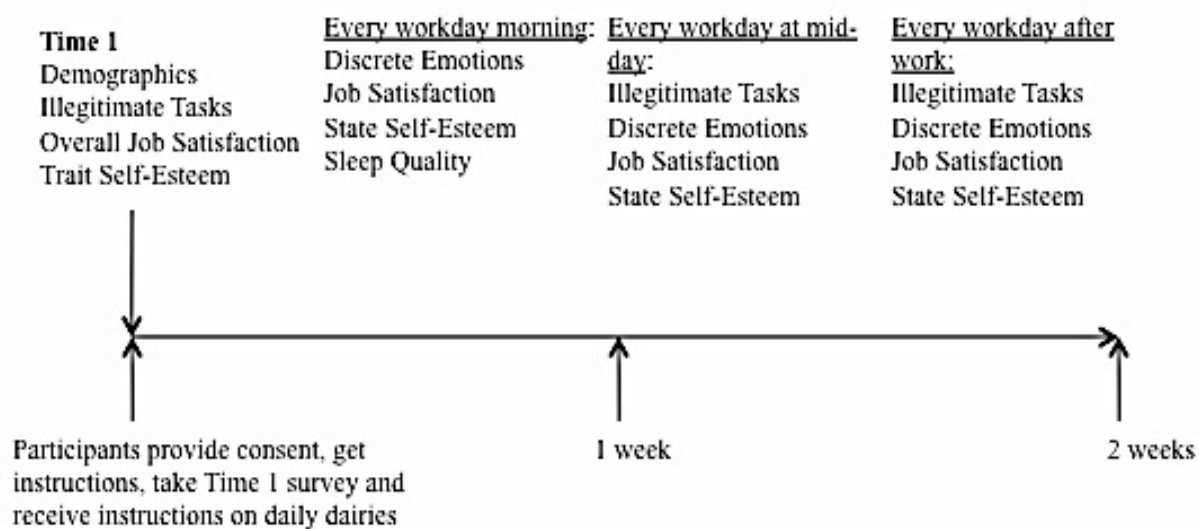


Figure 1. Graphic depiction of the study's methods and timeline.

Chapter Three Results

Multivariate summary statistics are provided for all measures in Tables 1 and 2. The average level of illegitimate tasks at the mid-day diary and at the evening diary was calculated to provide a context for the average reports of illegitimate tasks. In addition, bivariate correlations between level 2 variables are illustrated in Table 3.

Hypothesis 1 proposed that illegitimate task episodes would be negatively related to state levels of self-esteem both within days and across days. Results indicated that illegitimate tasks are related to state self-esteem within days. Illegitimate tasks experiences in the afternoon were negatively related to state self-esteem reported in the evening ($\beta = -.06, p < .05$), controlling for state self-esteem levels that morning. In addition, illegitimate tasks experienced across the day were negatively related to evening state self-esteem ($\beta = -.05, p < .05$). However, illegitimate task experiences on one workday did not influence state self-esteem levels the following morning or the following day. Thus, hypothesis 1 was partially supported. Tables A1-A7 detail these results.

Hypothesis 2a proposed that illegitimate task episodes would be positively related to daily levels of anger and depressive symptoms both within and across days. Results demonstrated illegitimate tasks to be a consistent predictor of anger within days. Illegitimate tasks in the morning predicted anger at mid-day ($\beta = .24, p < .05$) and in the evening ($\beta = .15, p < .05$), controlling for morning anger levels. Furthermore, illegitimate tasks in the afternoon predicted anger in the evening ($\beta = .33, p < .05$). Illegitimate tasks

across the workday also predicted anger that evening ($\beta = .31, p < .05$). However, the effects of illegitimate tasks on anger appear to attenuate or disappear overnight as no significant effects on anger were found at the following morning or during the following day.

On the other hand, illegitimate tasks appear to have a relationship with depressive mood both within and across days. In addition, with depressive mood, the association with illegitimate tasks becomes more evident as the day carries on. For example, while no significant relationship between illegitimate tasks in the morning and depressive mood was evident, illegitimate tasks in the afternoon predicted reports of depressive mood in the evening ($\beta = .11, p < .05$), controlling for morning levels of depressive mood. In addition, these effects persisted into the following morning ($\beta = .07, p < .05$), demonstrating high levels of afternoon illegitimate tasks predict higher depressive mood at the start of the next workday. Furthermore, the overall level of illegitimate tasks for the day predicted depressive symptoms in the evening ($\beta = .09, p < .05$) and, like afternoon illegitimate tasks, the overall experience of illegitimate tasks for a workday appear to carry over from one day to the next. Days with high levels of illegitimate tasks predicted depressive mood at the start of the next workday ($\beta = .09, p < .05$). Thus, considering both anger and depressive mood, hypothesis 2a was partially supported. Tables A8-A21 detail these results.

Hypothesis 2b proposed that illegitimate tasks would be positively related to employee fatigue both within and across days. Supporting this notion, illegitimate tasks in the afternoon were positively related to fatigue reports in the evening ($\beta = .13, p < .05$), controlling for morning fatigue. Furthermore, illegitimate tasks across the workday were

related to evening fatigue ($\beta = .15, p < .05$). Unexpectedly, illegitimate tasks during one workday demonstrated a negative relationship to fatigue the following day. More specifically, illegitimate tasks across the day predicted lower fatigue at the start of the following workday ($\beta = -.14, p < .05$) as well as lower fatigue overall the next day ($\beta = -.13, p < .05$). These findings were not in line with expectations, but may represent an opponent-process between daily stress and daily fatigue, which will be discussed further later. Tables A22-A28 illustrate these results.

Hypothesis 3 stated that illegitimate task episodes would be negatively related to job satisfaction both within and across days. As expected, illegitimate tasks predicted lower job satisfaction consistently within the workday. Illegitimate tasks in the morning were related to lower levels of job satisfaction at mid-day ($\beta = -.18, p < .05$) and in the evening ($\beta = -.09, p < .05$). In addition, illegitimate tasks in the afternoon predicted lower job satisfaction that evening ($\beta = -.20, p < .05$). Illegitimate tasks across the workday also showed a negative relationship to job satisfaction that evening ($\beta = -.18, p < .05$). However, illegitimate tasks in one workday did not predict job satisfaction upon returning to work the next day nor for the following day overall. Hypothesis 3 was therefore partially supported. These results are shown in Tables A29-A35.

Hypothesis 4 proposed that illegitimate tasks during the workday would impact sleep quality that night. However, no support was found for this hypothesis as illegitimate tasks across the workday did not have a significant relationship to the number of minutes it took to fall asleep that night ($\beta = .14, ns$), nor to reports of feeling rested upon waking ($\beta = .01, ns$), nor to overall reports of sleep quality ($\beta = -.02, ns$). These results are shown in Table A36.

Hypothesis 5 stated that trait self-esteem would moderate the relationship between illegitimate tasks and well-being outcomes such that illegitimate tasks would be more strongly related to employee well-being when trait level self-esteem is low rather than high. In other words, it was expected that trait self-esteem would function as a buffer against the negative effects of illegitimate tasks. For a visual summary of results, see Figure 3. An interactive effect was found between illegitimate tasks and trait self-esteem on state levels of self-esteem. In particular, the effects of illegitimate task episodes in the morning on state self-esteem at mid-day was marginally moderated by trait self-esteem ($\beta = .11, p = .06$). The methods of Preacher, Curran, and Bauer (2006) were used to probe interactions and assess simple slope effects. The calculators developed by Preacher, Curran, and Bauer (2006) for simple intercepts, simple slopes, and regions of significance in HLM 2-way interactions based on the analytics outlined in Bauer and Curran (2004) were used. Using these calculators, the researcher is to select conditional values of the moderator for analyses and plotting. One recommended choice discussed by Preacher, Curran, and Bauer (2006) is to select conditional values of one standard deviation above and one standard deviation below the mean, which was selected here. Please note that because the extreme values are not plotted, figures may somewhat underrepresent differences in slopes. As predicted and illustrated in Table A1 and Figure 4, among employees with low trait self-esteem, illegitimate tasks in the morning had a negative relationship with state self-esteem at mid-day ($\gamma = -.09, t = -2.26, p < .05$), but not among employees with high trait self-esteem ($\gamma = .03, t = .76, p = .45$). In addition, as shown in Table A2 and Figure 5, the effect of illegitimate task episodes in the morning hours on evening levels of state self-esteem was moderated by employees' trait self-esteem levels

($\beta = .07, p < .05$). Further, as expected, among employees with low trait self-esteem, illegitimate tasks were significantly related to lower evening levels of state self-esteem ($\gamma = -.06, t = -2.40, p < .05$), but among those with high trait self-esteem, illegitimate tasks were unrelated to state self-esteem ($\gamma = .02, t = .75, p = .45$). Finally, the effects of illegitimate task episodes from one workday on state self-esteem the following day were moderated by trait self-esteem ($\beta = .04, p < .05$), however, while the direction of the slopes was in line with predictions, simple slope tests did not reveal either slope to be significantly different from zero ($\gamma = -.02, t = -.17, p = .87$ among those with low trait self-esteem, and $\gamma = .03, t = .22, p = .82$ among those with high trait self-esteem). See Table A13 and Figure 6.

Table 1

Descriptive Statistics for Level-1 Variables and Intra-Class Correlation Coefficients for Dependent Variables

	Variable	Mean	SE	ICC
Morning	Anger_morning	1.22	.52	.26
	Depression_morning	1.21	.58	.42
	Fatigue_morning	2.22	1.17	.39
	Job Sat_morning	3.86	.94	.74
	State SE_morning	4.31	.59	.77
Mid-day	BITS_mid-day	2.40	.93	.58
	Anger_mid-day	1.35	.64	.29
	Depression_mid-day	1.18	.49	.64
	Fatigue_mid-day	2.21	1.09	.42
	Job Sat_mid-day	3.80	.98	.78
	State SE_mid-day	4.31	.58	.75
Evening	BITS_evening	2.43	.95	.57
	Anger_evening	1.35	.67	.29
	Depression_evening	1.22	.63	.57
	Fatigue_evening	2.56	1.16	.56
	Job Sat_evening	3.77	1.01	.75
	State SE_evening	4.32	.58	.81
Across the day	BITS_day overall	2.42	.90	.58
	Anger_day overall	1.31	.49	.39
	Depression_day overall	1.22	.53	.59
	Fatigue_day overall	2.32	1.03	.50
	Job Sat_day overall	3.82	.91	.83
	State SE_day overall	4.30	.57	.87
Sleep	Rested	3.17	1.20	.30
	Sleep quality	3.38	.99	.29
	Minutes to sleep	26.91	30.6	.77

Note. N ranges from 712 to 853. BITS = Bern Illegitimate Tasks Scale. Anger_morning = Anger measured at the morning occasion, Depression_morning = Depressive mood measured at the morning occasion, Fatigue_morning = Fatigue measured at the morning occasion, Job Sat_morning = Job Satisfaction measured at the morning occasion, State SE_morning = State self-esteem measured at the morning occasion. Well-being for mid-day and evening occasions are abbreviated and reflected in a similar way. BITS_mid-day = Illegitimate tasks measured at the mid-day occasion, reflecting morning experience. BITS_evening = Illegitimate tasks measured at the evening occasion, reflecting afternoon experience. BITS_day overall and the abbreviated well-being variables with “_day overall” reflects an average day level measurement. The day level measurement was calculated by taking the mean across diary entries within a workday.

Table 2

Descriptive Statistics for Level-2 Variables

	Mean	SD
Gender	0.87	0.34
Age	42.75	13.1
Tenure	8.71	8.1
Job Satisfaction	4.06	0.76
Trait Self-Esteem	4.28	0.55
BITS	2.98	0.86
Average Mid-day BITS	2.44	0.74
Average Evening BITS	2.47	0.78

Note. N = 90; Gender coded such that male = 0, female = 1; Age measured in years; Tenure measured in years. Job satisfaction, trait self-esteem, and BITS (The Bern Illegitimate Tasks Scale) were measured at Time 1 and referenced chronic experience. BITS and job satisfaction scales were orientated toward overall perceptions and attitudes regarding participants' jobs. Average mid-day BITS and average evening BITS scores reflect the average score across all diary days for each participant at each of the respective time points.

Table 3

Bivariate Correlations between Level-2 Factors.

	1	2	3	4	5	6	7
1. Gender							
2. Age	0.19						
3. Tenure	0.08	.55*					
4. Job Satisfaction	-0.09	0.04	0.01				
5. Trait Self-Esteem	-0.17	-0.18	-0.19	.31*			
6. BITS	0.01	-0.03	-0.09	-.32*	-.02		
7. Average Mid-day BITS	0.03	0.13	0.02	-.30*	-.24*	.41*	
8. Average Evening BITS	0.05	0.14	0.05	-.28*	-.23*	.40*	.92*

Note: N = 90; * $p < .05$; Gender coded such that male = 0, female = 1; Age measured in years; Tenure measured in years. Job satisfaction, trait self-esteem, and BITS (The Bern Illegitimate Tasks Scale) were measured at Time 1 and referenced chronic experience. BITS and job satisfaction scales were orientated toward overall perceptions and attitudes regarding participants' jobs. Average mid-day BITS and average evening BITS scores reflect the average score across all diary days for each participant at each of the respective time points.

	Mid-day	Evening	Following Morning	Following Day
BITS Mid-day	Anger (+) Job Satisfaction (-)	Anger (+) Job Satisfaction (-)		
BITS Evening		State SE (-) Anger (+) Depressive Mood (+) Fatigue (+) Job Satisfaction (-)	Depressive Mood (+)	
BITS Day		State SE (-) Anger (+) Depressive Mood (+) Fatigue (+) Job Satisfaction (-)	Depressive Mood (+) Fatigue (-)	Fatigue (-)

Figure 2. Schematic representation of the significant effects of illegitimate tasks on well-being across each daily diary measurement. BITS Mid-day = Illegitimate tasks measured at the mid-day occasion, reflecting morning experience. BITS Evening = Illegitimate tasks measured at the evening occasion, reflecting afternoon experience. BITS Day represents the overall BITS score for a workday. Morning levels for each outcome were controlled for in each of the models. State SE = State self-esteem.

	Mid-day	Evening	Following Morning	Following Day
BITS Mid-day *Trait SE	State SE	State SE		
BITS Evening*Trait SE				
BITS Day*Trait SE				State SE

Figure 3. Schematic representation of interactive effects. BITS Mid-day = Illegitimate tasks measured at the mid-day occasion, reflecting morning experience. BITS Evening = Illegitimate tasks measured at the evening occasion, reflecting afternoon experience. BITS Day represents the overall BITS score for a workday. Morning levels for each outcome were controlled for in each of the models. Trait SE = Trait self-esteem; State SE = State self-esteem.

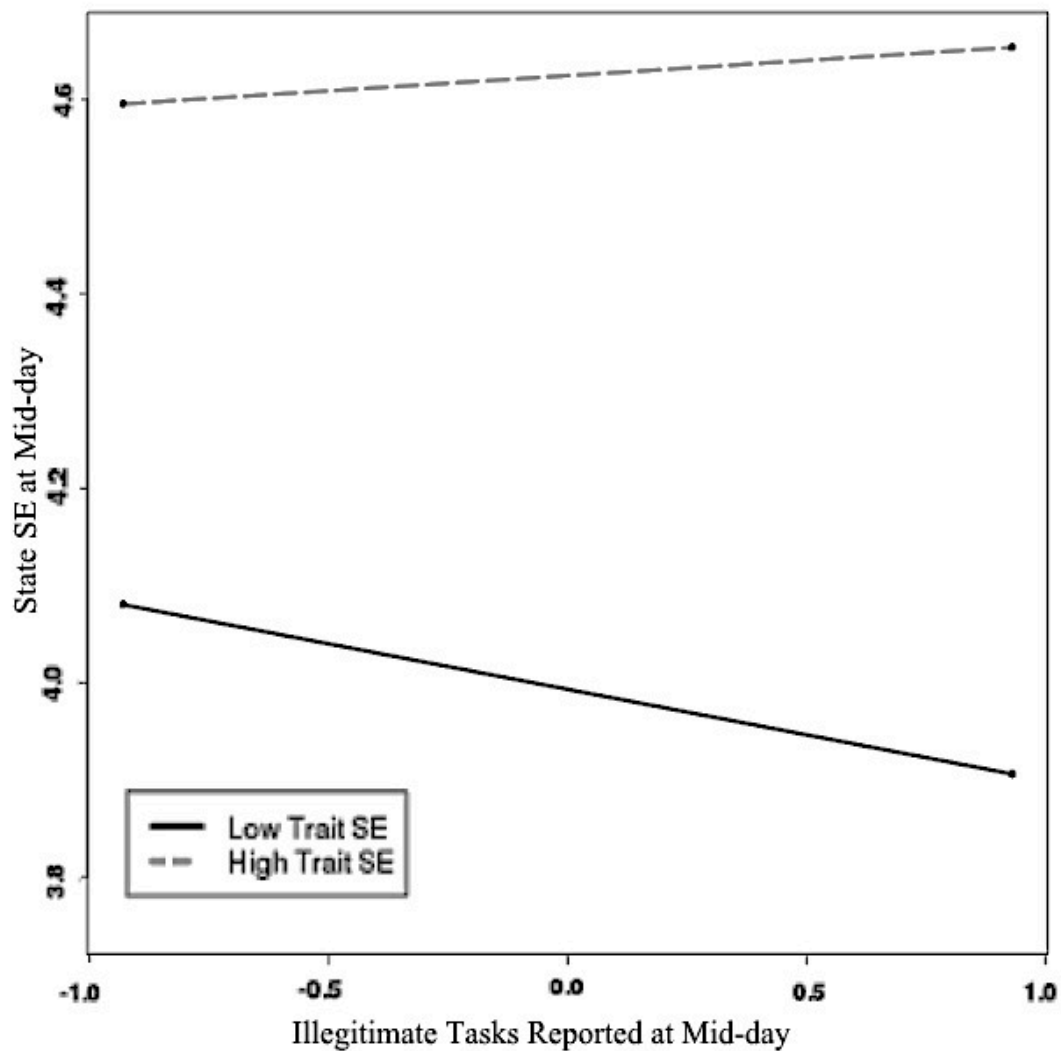


Figure 4. Interaction between illegitimate tasks reported at mid-day and trait self-esteem on state self-esteem mid-day.

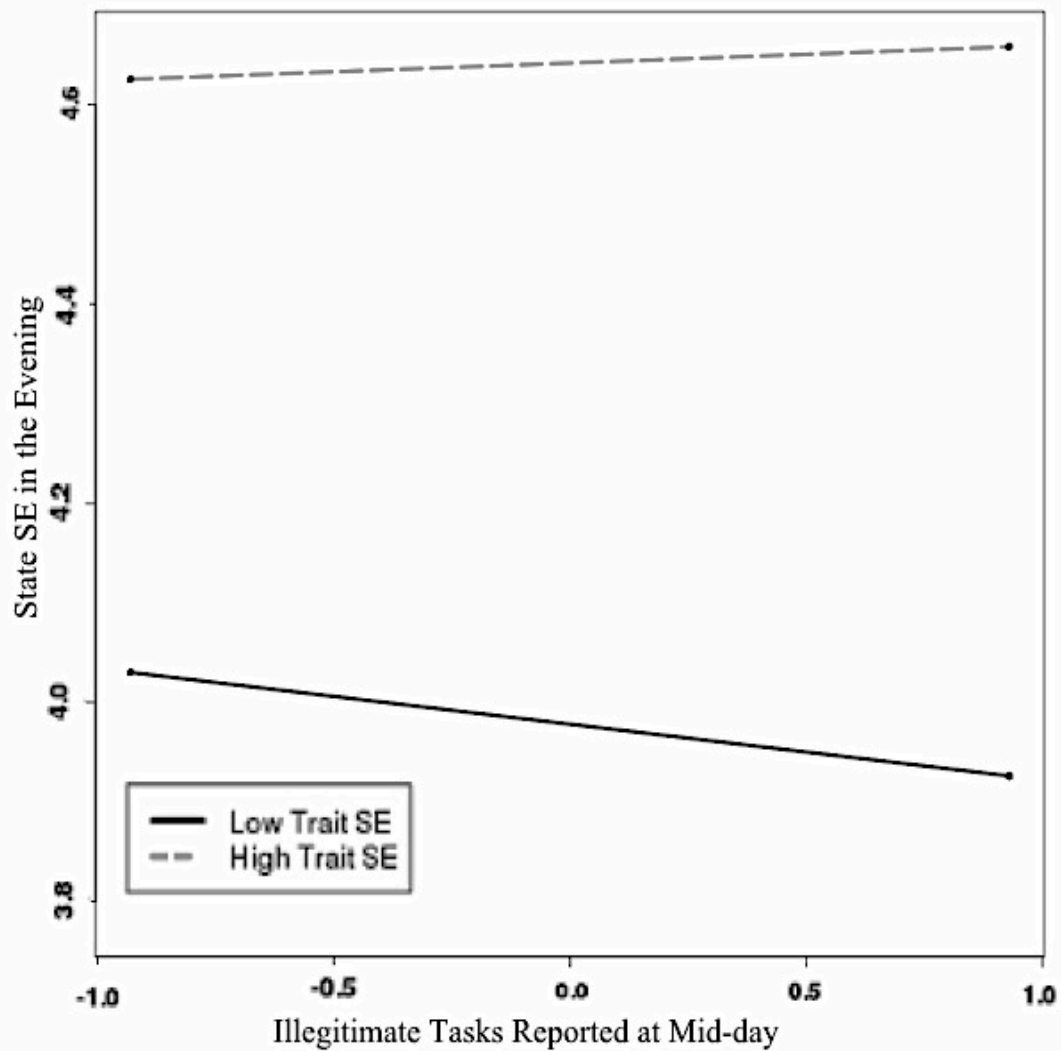


Figure 5. Interaction between illegitimate tasks reported at mid-day and trait self-esteem on state self-esteem in the evening.

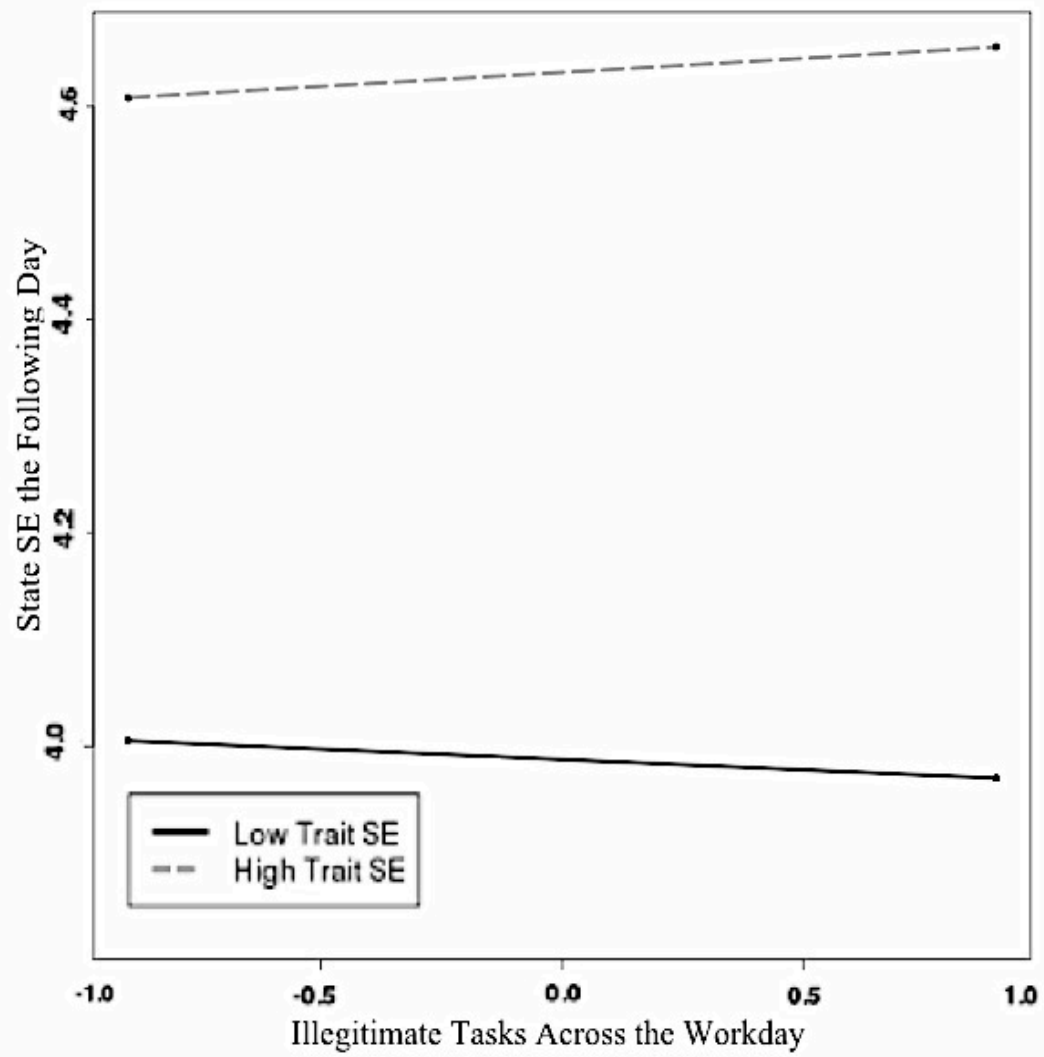


Figure 6. Interaction between illegitimate tasks across the workday and trait self-esteem on state self-esteem the following day.

Chapter Four Discussion

Overall, the results revealed that illegitimate tasks episodes represent meaningful occupational stressors that have relationships to employee anger, depressive mood, fatigue, and job satisfaction. In addition, illegitimate tasks demonstrated a relationship with state levels of self-esteem. Most main effects of illegitimate tasks were evident within the same workday, with the exception of depressive mood and fatigue. Days with high levels of illegitimate tasks were related to depressive mood which persisted into the following morning. An association between illegitimate tasks one day and fatigue reports the next also emerged, but not in the expected direction. No effects on sleep quality were evident. Furthermore, interactive effects between illegitimate tasks and trait levels of self-esteem emerged, suggesting that trait self-esteem may attenuate the negative effects of illegitimate tasks on state levels of self-esteem. What follows below is first, a more comprehensive review of the present study's results to illustrate the core findings and second, a thorough discussion of the theoretical and practical implications of these findings. Limitations, future research directions, and a summary and conclusion will trail.

Hypothesis 1

First, hypothesis 1 stated that illegitimate task episodes would be negatively related to state self-esteem, both within and across days. Results indicated that illegitimate task episodes are in fact related to state self-esteem levels within days. However, relationships were evident across all measurement occasions. More

specifically, illegitimate tasks across the day predicted state self-esteem that evening. Furthermore, illegitimate tasks in the afternoon were significantly related to evening reports of state self-esteem. Thus, illegitimate tasks are associated with lower state self-esteem and this association is more evident at the end of the workday than during the middle of the workday. Illegitimate tasks were not predictive of state self-esteem the following day. It should be noted that the internal consistency of the items was low (.20) and this may have attenuated the results.

The finding that state self-esteem is sensitive to illegitimate tasks is in line with the SOS model (Semmer, Jacobshagen, Meier, & Elfering, 2007) and identity theory (Thoits, 1991). Because preserving self-worth is an important human goal and stressors represent threats to such goals (Lazarus, 1999), it follows, as outlined in these models, that stressors have the capability to degrade self-worth and self-esteem (Semmer et al., 2007; Thoits, 1991). Accordingly, when the actions of others signal a lack of appreciation and lack of respect, which is inherent in the source of illegitimate tasks, this constitutes a threat to one's self-esteem. The finding that daily experiences of illegitimate tasks are related to degraded state self-esteem coincides with the propositions of the SOS model and identity theory and supports the notion that illegitimate tasks represent a threat to an employee's sense of self-worth.

Hypothesis 2

Furthermore, it was expected that illegitimate tasks would predict discrete emotions such as anger and depressive mood, as stated in hypothesis 2a. Results indicated that illegitimate tasks predicted anger consistently across the day with a significant relationship between illegitimate tasks and anger levels found at every

measurement occasion. However, it appears that overnight, employees are able to recover from their anger as no significant relationship between illegitimate tasks and anger was found from one day to next. These findings are in line with a stressor-strain model (Jex, 2002), as each stressor event in turn related to anger reports. However, examining effects from day to day provides further detail about the potential transitory nature of this strain outcome with reference to illegitimate tasks.

Depressive mood was associated with illegitimate tasks as well, as illustrated in Tables 18-24. However, these effects were more prominent as the day went on. For example, illegitimate tasks across the day were related to depressive mood in the evening. Furthermore, illegitimate tasks in the afternoon were related to depressive mood in the evening. Interestingly, depressive mood presented a unique pattern distinct from anger in that the effects did not appear to dissipate overnight. In fact, employees who experienced high levels of illegitimate tasks during the workday tended to have more depressive symptoms at the start of the following workday. In other words, an employee who experienced higher than usual illegitimate tasks yesterday feels comparatively more depressed at the start of their day today. Furthermore, if illegitimate task episodes are part of the final hours of an employee's workday (reporting high levels of illegitimate tasks in the afternoon), this is also predictive of having a depressive mood upon returning to work the following day. Taken together, these findings suggests that the effects of illegitimate tasks on depressive mood tend to be lagged.

The second part of hypothesis 2, posited that illegitimate tasks would have a negative effect on indicators of employee fatigue. Specifically, it was expected that days which were particularly high in illegitimate tasks would be associated with higher reports

of fatigue and tiredness. As expected, when reports of illegitimate tasks were high for a given workday, fatigue levels were also high that evening. Furthermore, illegitimate tasks in the afternoon were related to more employee fatigue that evening.

While the within day findings regarding employee fatigue are both intuitive and in line with expectations, the results regarding cross-day effects are divergent from predictions. In particular, high levels of illegitimate tasks were associated with lower levels of fatigue the next morning and the next day overall. In other words, having a day filled with unnecessary or unreasonable duties is associated with feeling less tired the following day. This finding is quite unexpected, but may represent an opponent process (where an initial feeling leads to an opposite secondary emotion or sensation) between illegitimate tasks and fatigue from day to day. The theoretical implications of this result will be revisited later.

Hypothesis 3

In addition, it was expected that illegitimate tasks would be related not only to self-esteem and emotions, but also job attitudes. Hypothesis 3 stated that illegitimate tasks would be related to job satisfaction levels, both within and across days. In fact, results demonstrated a consistent relationship between illegitimate task episodes and lower job satisfaction. All measurement occasions produced this result, indicating that job satisfaction is particularly sensitive to illegitimate tasks. However, illegitimate tasks were not able to predict job satisfaction across days, suggesting that the effects illegitimate tasks may have on job satisfaction attitudes dissipate relatively quickly.

Hypothesis 4

Hypothesis 4 was focused on the effects illegitimate tasks may have on sleep quality, and predicted that greater levels of illegitimate tasks would degrade sleep quality reports that night. However, this hypothesis was not supported. Reports of overall sleep quality, the number of minutes it took to fall asleep, and feeling rested upon waking were not associated with illegitimate task experiences. Effects may have been undetectable due to flaws in the measurement of sleep quality. First of all, the measures of sleep quality were potentially not sensitive enough to capture the effects. Fluctuations in sleep quality may be more subtle than what the current study's items were able to reflect. Only three items were used and each item was analyzed as its own indicator. More indicators may have provided more power. Combining the items into a more global index was considered, but there are three reasons which render this option unattractive. First, previous empirical evidence points to the notion that different forms of sleep quality may be differentially related to occupational stressors. In other words, the various dimensions or aspects of sleep tend to be related to each other, but particular stressors may have unique associations with each. Previous research assessing work stressors and sleep quality indicators has found that some work stressors (i.e. interpersonal conflict, job demands, job ambiguity) may be differentially related to various aspects of sleep quality such as falling asleep, maintaining sleep, and returning to wakefulness (Fortunato, LeBourgeois & Harsh, 2008). Second, the scales were not identical between items. More specifically, one item assessed how many minutes it took participants to fall asleep and this item would need to be re-scaled on a 5-point Likert scale. This would result in loss of information and would be non-ideal as cut scores for coding would be arbitrary. Finally,

further analysis by combining items was determined unworthy as initial analyses were not encouraging.

Indeed, an individual's sleep quality is arguably comprised of more factors than were measured currently such as ability to reinitiate sleep after waking in the night and how long it takes to get out of bed in the morning (see Fortunato, LeBourgeois & Harsh, 2008). This possible lack of content validity may also be a culprit for the absence of effects. On the other hand, illegitimate tasks may simply not be related to sleep quality or only be related when other factors not examined here are taken into account. While some research demonstrated that daily experiences of stress (Akerstedt et al., 2012), injustice at work (Greenberg, 2006), and psychosocial job strain (Lallukka, Rahkonen, Lahelma, & Arber, 2010) are related to employee sleep, illegitimate tasks may not function the same way.

Hypothesis 5

Finally, hypothesis 5 predicted that trait level self-esteem would moderate the effects of illegitimate tasks on well-being outcomes, such that higher levels of trait self-esteem would buffer the detrimental effects of illegitimate tasks. Three interactions emerged which demonstrated the expected effects (see Tables 4, 5 and 10). Interestingly, these interactions only appeared in the prediction of state self-esteem. Furthermore, one of these cases demonstrated the interactive effect from day to day (see Table 10).

Additional description of these effects is warranted. Let us consider the within day interactive effects. First, illegitimate tasks experienced in the morning hours were related to lower levels of state self-esteem at mid-day, but only among employees with low levels of trait self-esteem. While this particular interaction was slightly above

significance ($p = .06$), it is corroborated by a similar interaction on evening state self-esteem. More specifically, it also occurred that illegitimate tasks in the morning were strongly, negatively related to evening state self-esteem levels, but only for those employees with low levels of trait self-esteem. In other words, employees with a high level of trait self-esteem tended to be protected from the negative effects of morning illegitimate tasks on their state self-esteem levels.

To better illustrate the cross-level interaction effects, we can use one of the hierarchical slopes as outcomes models to examine one's predicted state self-esteem score at the end of the workday (using the mixed model here):

$$\text{State SE}_{\text{Evening}_{ij}} = 4.31 + .60*(\text{Trait SE}) + .19*(\text{State SE}_{\text{Morning}}) + \\ -.01*(\text{BITS}_{\text{Mid-day}}) + .07*(\text{BITS}_{\text{Mid-day}}*\text{Trait SE})$$

where, State SE_Evening = State self-esteem at the evening occasion

Trait SE = Trait self-esteem

State SE_Morning = State self-esteem at the morning occasion

BITS_Mid-day = Illegitimate tasks measured at the mid-day occasion, reflecting morning experience

Consider an employee (to illustrate, let us select an administrative assistant), who is one standard deviation below the grand mean on trait self-esteem. This person, compared to others, has a low sense of self-worth. Imagine a workday where this employee starts their day off feeling average. However, during the first several hours of their workday, this employee is asked to complete illegitimate tasks (at a level one standard deviation above their own average level of morning illegitimate tasks). For illustrative purposes, imagine the administrative assistant spends her morning dealing with non-role related problems, such as the technical difficulties of electronic equipment before an important departmental meeting. Assume it is clear that this task is within the information technology staff's domain, yet after her prior request for assistance, no action was taken.

The administrative assistant must now attend to it herself and perceives this as illegitimate, thinking to herself “this is not my job!”. This person, at the end of the day, would leave work with a predicted state self-esteem level of 3.92, a value that we can now compare to an employee with high levels of trait self-esteem. Consider an employee who also starts their day also feeling quite average, however, this employee, by trait, is one standard deviation *above* the grand mean on self-esteem. As their day proceeds, this employee also experiences higher than average illegitimate tasks (let us assume an administrative assistant facing the same unresolved technical difficulties). While both employees endure high levels of illegitimate tasks, the employee with high trait self-esteem fairs better in terms of retaining their daily state self-esteem levels as they would leave work with a predicted score of 4.67 on the state self-esteem scale that evening, almost a point higher than the low trait self-esteem employee. In the end, the former employee leaves work feeling more dispirited than when they arrived, whereas the latter employee leaves for the day with their (typical) high sense of self-value, despite their stressful morning. In other words, while illegitimate tasks tend to threaten state self-esteem, employees who have higher than average trait levels of self-esteem tend to be protected against this threat.

What is interesting, however, is that this buffering effect of trait self-esteem did not function as a buffer for other well-being indicators. In other words, while high trait self-esteem may be protective, it is not a pervasive shield against the psychological strains that may result from illegitimate tasks. High trait self-esteem may only mitigate the effects of illegitimate tasks when it concerns daily states of self-esteem.

Interestingly, the interactive effects within days were only relevant to the mid-day reports of illegitimate tasks (which reflect illegitimate task episodes in the morning hours). In contrast, no interactive effects were found for illegitimate tasks in the afternoon on state self-esteem, even though a significant main effect was evident. This is intriguing because it suggests that illegitimate tasks may become more threatening or more stressful as the workday progresses. To demonstrate, illegitimate tasks in the first part of the day were related to state self-esteem at both mid-day and evening, but high trait self-esteem buffered against this effect. On the other hand, illegitimate tasks in the second half of the workday were negatively related to state self-esteem in the evening, regardless one's trait self-esteem levels. Considering these patterns as well as the patterns with the other well-being indicators such as depressive mood and fatigue, there may be value in the idea that perhaps the power of illegitimate tasks to threaten state self-esteem is greater as the day carries on. I will expand upon why this may be the case and how it coincides with the theoretical propositions as well as other studies' findings below.

Lastly, an interactive effect emerged between illegitimate tasks across the workday on the *average level* of state self-esteem (which might be thought of as "daily self-esteem") the following day. The pattern, like the previous interactions, was in line with expectations, however, simple slope tests were not in line with expectations, which may reflect a lack of power.

Theoretical Implications

These findings lend themselves to several important theoretical implications. What follows is first a discussion of how the current findings related to state self-esteem align with the notions of the Stress as Offense to Self framework. Next, an examination

of the contribution to the nomological network of illegitimate tasks offered from this study. Finally, several patterns in the results have been identified, as explained above. Significant attention is now given to a more thorough discussion of the implications associated with the observed patterns.

State self-esteem and the SOS framework. First, this study found evidence for the propositions within the SOS framework (Semmer, 2007). As described earlier, the SOS framework suggests that one way in which self-esteem may be degraded is via “Stress as Disrespect”. Illegitimate tasks in particular represent stressors which convey a lack of respect, appreciation, consideration, and threaten one’s role identity within organization. In line with these propositions, illegitimate tasks in the afternoon and across the workday were associated with lower state self-esteem levels in the evening. Moreover, illegitimate tasks in the morning were predictive of state self-esteem both at mid-day and in the evening; however, this was only among those employees with low trait self-esteem.

By using a daily diary methodology, the data can better address temporal precedence of illegitimate tasks in relation to state self-esteem. Given this particular sampling design, illegitimate tasks in the morning hours were assessed at the mid-day diary along with current status report of self-esteem and well-being. Similarly, afternoon illegitimate tasks were assessed at the evening diary along with current report of self-esteem and well-being. While this design was sensible and appropriate, covariations reflected at the same measurement occasion (even if scales were oriented toward the previous few hours for illegitimate tasks, but oriented toward present status for well-being), do not confirm temporal precedence. Instead, it is necessary to examine whether

illegitimate tasks at one measurement occasion predict self-esteem and well-being at a measurement occasion later in time (i.e. mid-day reports of illegitimate tasks predicting evening well-being reports). Importantly, when we consider individuals with low trait self-esteem, illegitimate tasks predict state self-esteem not only when reported at the same measurement occasion, but also when state self-esteem is reported a temporal point separated from the illegitimate task episode by at least 1.5 hours. Furthermore, illegitimate tasks across the day (which include the measurement occasions both at mid-day and evening) predict evening levels of state self-esteem, independent of trait level self-esteem. These findings coincide with the SOS framework and provide further evidence for the usefulness of this conceptualization of the stress process, at least when considering illegitimate tasks.

Contributions to the nomological network. Next, these data provide additional insight into the domain space that illegitimate tasks may influence. Discrete emotions such as anger and depressive mood had not yet been examined. Furthermore, physical states have yet to be explored in relation to this stressor and this study suggests that fatigue may be one affected condition, whereas sleep may not be (or at least requires more rigorous measurement to uncover effects). Lastly, while some indicators of job attitudes have been examined (such as resentment toward one's organization and factors of burnout such as disengagement; Semmer et al., 2012), job satisfaction had yet to be explored. Thus, this study contributed to the illegitimate tasks dialog and literature by offering additional information into the emotional, physical, and attitudinal repercussions that illegitimate tasks may provoke.

Unique patterns of association. These data demonstrate unique patterns within each particular emotional and attitudinal outcome. A discussion of the potential implications of the patterns observed with anger, job satisfaction, depressive mood and fatigue are below, followed by a discussion of the holistic pattern of results and their potential implications.

Anger and job satisfaction. Within the workday, illegitimate tasks were most consistently related to anger and job satisfaction, with illegitimate tasks predicting these factors both within and across daily diary occasions (as seen in Figure 2). This finding is solitarily interesting, as it was these two outcomes that had unequivocally consistent relationships with illegitimate tasks across the workday, suggesting particularly strong and predictable associations.

Anger. Indeed, anger as a result of illegitimate tasks may arise from the shame felt when performing the offensive tasks or from a sense of being demeaned, a feeling such as “humiliated fury” (Tangney et al., 1992; Tangney et al., 1996; Scheff & Retzinger, 1991). This finding is in line with previous work which has shown that events which are both social and unflattering can initiate both shame and anger or fury (Thomaes, Stegge, Olthof, Bushman, & Nezlek, 2011). This result underscores the consistent negative consequences on employee emotional states in response to illegitimate tasks.

In addition, anger resulting from illegitimate tasks could represent a greater risk for retaliatory behaviors on the part of the employee. In fact, previous research on illegitimate tasks has demonstrated a positive relationship between illegitimate tasks and counterproductive work behaviors aimed both at supervisors and at colleagues (Semmer et al., 2010). Anger may function as a proximal emotion to counterproductive behaviors

(Fox & Spector, 2006). Thus, the heightened anger associated with illegitimate tasks may be the underlying pathway by which illegitimate tasks function to increase counterproductive work behaviors.

Job Satisfaction. Job satisfaction was also consistently, negatively associated with illegitimate tasks both within and across measurement occasions. This finding is in line with the notion that task characteristics can impact employee satisfaction levels (Fried & Ferris, 1987). Furthermore, this suggests that illegitimate tasks are stressors which may have broad reaching implications on employee orientation toward their jobs and their organization. Such consistent results implore the question of whether illegitimate tasks may also have a relation to daily organizational commitment, turnover intentions, or turnover itself.

However, it was found that illegitimate tasks did not predict job satisfaction across days. Yet, we cannot conclude that job satisfaction does not suffer over time with chronic experiences of illegitimate tasks. In fact, it likely does as other research has shown illegitimate tasks to relate to slow evolving emotions such as resentment (Semmer et al., 2010) and performance behaviors (Semmer, Tschan, Meier, Facchin, & Jacobshagen, 2010). What can be presumed from these results, however, is that when examining the effects of illegitimate tasks on job satisfaction from one day to the next, carry-over is not substantial. This is the first step toward a more comprehensive understanding of the impact illegitimate tasks may have on employee attitudes. Importantly, these results encourage further explorations into other factors which may be directly tied to organizational effectiveness.

Depressive mood and fatigue. Next, let us turn to the unique patterns that emerged between illegitimate tasks and depressive mood and fatigue within workdays. Illegitimate tasks that were experienced specifically in the afternoon were related to evening levels of depressive mood and fatigue. Furthermore, the illegitimate tasks experienced across the entire day were associated with evening levels of depressive mood and fatigue. Taken together, the effects of illegitimate tasks on these particular outcomes develop only at the end of the day. It is intriguing that illegitimate tasks predict these outcomes more consistently in the evening and several explanations are plausible.

Depressive mood. With regards to depressive mood, much research has surrounded the cognitive nature of depressive symptoms (Beck, Rush, Shaw & Emery, 1979; Feliciano, Segal, & Vair, 2011; Reinecke & Jacobs, 2010). Thus, the cognitive processing involved with developing a depressed mood state may explain why the relationships between illegitimate tasks and depressive mood are lagged and even persist to following days. Depression and depressive symptoms tend to be routed in unhealthy cognitive processes (Beck, et al., 1979), in contrast to more reactive emotions such as anger. Beck's cognitive theory of depression states that cognitive symptoms of depression actually precede the affective or mood symptoms of depression, rather than vice versa (Beck et al., 1979). Negative self-beliefs precede the development of depressive symptoms. Having negative thoughts about oneself and feeling deficient and worthless, as well as having a negative view of one's environment and seeing it as filled with obstacles are two central factors which lead to depression (Gonca & Savasir, 2001). Thus, while not directly tested here, it can be inferred that degradations in state self-esteem may represent the beginning of a set of cognitive processes that lead to a negative

mood state. Because this process is cognitive in nature, it makes sense to find that the relationship is not immediate (as it appears to be with anger), as some of the relationships between illegitimate tasks and depressive mood are lagged and even appear on separate days.

Furthermore, some research has demonstrated that cognitive processes such as rumination and brooding following the experience of a stressor can lead to increased depressive symptoms (Cox, Funasaki, Smith, & Mezulis, 2012). Although not directly examined in this study, employees who experienced a form of devaluation at work, may continue to process this event even after it is over. Rumination or brooding throughout the evening could in turn result in more depressive mood the next morning. The persisting significant relationship between illegitimate tasks and depressive mood the following morning suggests that illegitimate tasks may not only have a negative effect on employee emotional states in the hours after the event, but may contaminate well-being into the next day. This is important because it underscores the potential for illegitimate tasks to not only impact immediate states of emotion, but also emotional states over time. Indisputably, effects did not remain evident at the mid-day measurement occasion on the following day suggesting that once the current day's work gets underway, employee's moods return to normal. However, given that a notable amount of variance in mood states can be accounted for by nightly sleep (Wong et al., 2012) and off-job activities (van Hooff, Geurts, Beckers, & Kompier, 2011), evidence that illegitimate tasks the previous day significantly relates to the following morning's depressive mood state is remarkable.

Fatigue. Similar to depression, the effects of illegitimate tasks on tiredness and fatigue were more evident at the evening measurement occasion. There may be several

covariates associated with the afternoon hours that may make the experience of illegitimate tasks more influential on feelings of fatigue.

First, employees may lack energy in the afternoon and in turn, the ability to effectively cope with stressors. Physiologically, humans have a drop in energy resources in the afternoon as a result of diurnal rhythms (see Refinetti, 2006), which, in the scientific literature has actually been coined the “post-lunch dip” and has been linked to decrements in alertness, cognitive function, and many different forms of performance (Monk, 2005). In addition, in a study on the daily experience of work, researchers have found that as the day evolves, employees progressively lack energy, patience, and a sense of competence (Stone et al., 2006). Even mood tends to deteriorate as the day progresses, as evidenced by millions of people’s mood-indicative Twitter tweets during workdays (Golder & Macy, 2011). These changes in the afternoon hours may leave employees feeling particularly less able to manage non-essential or unreasonable demands on top of their in-role duties - in a sense, making illegitimate tasks more taxing.

Furthermore, there may be more time pressure at the end of the workday. Tolerance for managing or tackling tasks that fall outside one’s role boundary may be compromised as the time left to complete one’s work dwindles. In fact, previous research has shown that when other stressors are experienced in combination with high time pressure, employees sense greater harm to personal gain and mastery (see Kühnel, Sonnentag, & Bledow, 2011). In other words, later in the day, when time is at a premium, employees may have less energy to overcome impediments to primary work goals and feel more physically exhausted as a result.

Turning now to the effects seen across days, the results that emerged were quite unexpected. As described earlier, illegitimate tasks from one workday appear to *reduce* the amount of fatigue or tiredness experienced the next day. This finding, while not in line with expectations, may represent an opponent process between illegitimate tasks and fatigue. Opponent processes are conditions where an initial feeling is associated with an opposite feeling later in time. Opponent-process theory (Solomon & Corbit, 1974) suggests that the experience of arousal and emotions disrupts the body's state of physiological homeostasis and in the process of returning to homeostasis, opposing emotions are often experienced after one another. For example, opposing pairs include pleasure-pain, depression-elation, fear-relief, and so on. The opposing state or emotion reduces the intensity of the first emotion. In this case, the distress or arousal experienced from illegitimate tasks may give way to a state of fatigue or sleepiness that evening (which was in fact observed in relation to fatigue), but this state of fatigue perhaps promotes an opposing arousal state the next morning. This may be because the fatigue state promotes physiological methods of energy recovery leading to less fatigue the next day. For example, fatigue may lead to more rest or greater amount of sleep that night, resulting in less fatigue the following day. While this proposition cannot be supported by the data in the current study, future work should seek to replicate this result.

Holistic patterns. When considering the holistic set of results as illustrated in Figure 3, illegitimate tasks appear to be more relevant to the set of employee well-being indicators included in this study when the illegitimate tasks occur later on in the day. Illegitimate tasks in the afternoon were significantly related to all forms of employee well-being, whereas illegitimate task episodes in the morning hours were only related to

two outcomes (on a main-effect level): anger and job satisfaction, as previously discussed. On a between-person level, the average levels of illegitimate tasks during the morning hours were not very different from the average levels of illegitimate tasks during the afternoon hours, but the number of associations are greater at the evening report than at the mid-day report. In other words, employees don't appear to experience or report *more* illegitimate tasks later in the day, rather the data here simply suggest that later in the day, illegitimate tasks are *more stressful*.

This pattern in the results may be indicative of the importance of context in the experience of illegitimate tasks. Additional consideration to how an employee's interpretation of events later in the day changes, may help explain the holistic pattern of results. More specifically, one could argue that illegitimate tasks experienced later in the day convey or signal more disrespect and are therefore more threatening to self-esteem and well-being.

First, in the second half of the day, unnecessary work may be perceived as more apt to prevent an on time departure. If the illegitimate tasks present a barrier to progress toward completing the workday's duties, then late-day illegitimate tasks may seem even more inconsiderate or disrespectful. Afternoon illegitimate tasks may be more likely to result in work interference with family or non-work life, a condition that is attached to its own lot of negative outcomes (MacEwen & Barling, 1994). A late departure may also interfere with one's schedule or commute. Thus, having to do one's in-role tasks plus devote time to unnecessary (or unreasonable) work that inconveniently presents itself late in the day, may be particularly provoking to employees. If late-day illegitimate tasks in fact are perceived as more disrespectful, then according to the notions of the SOS model,

specifically the stress as disrespect pathway (Semmer et al., 2007), the pattern of results across the day are not surprising.

While the condition of time left in the workday may be a partial explanation, not overlooked is the fact that not all illegitimate tasks would require a substantial amount of additional time and some may not require “extra” time at all. For example, consider an employee who is starting a new work project but has been given many personal, idiosyncratic preferences from their supervisor as to how to complete the work. No additional tasks or time requirements are imposed upon them, but completing this project according to idiosyncratic preferences may be perceived as illegitimate because it may make no sense and seem quite unnecessary. In this instance, the illegitimate task is not reducing the employee’s available time significantly. Suffice it to say that the previous logic is admittedly not an all-encompassing explanation.

As described above in reference to fatigue, another explanation is that energy and patience may be reduced as the day carries on (Monk, 2005; Stone et al., 2006). Simply, the afternoon hours may covary with depletion of energy reserves to defend against the negative effects of illegitimate tasks. Because illegitimate tasks in the afternoon coincide with the natural dip in employee energy and mood, they may be more difficult for employee to manage at that time.

Finally, apart from the specific time of day, employee self-esteem and well-being at the evening measurement occasion are associated with the *accumulation* of demands. In other words, the accumulation of illegitimate tasks across the day appears to be a potent stressor for all well-being markers, including state self-esteem. For example, isolated illegitimate tasks in the morning were related only to a subset of outcomes.

However, when illegitimate tasks from both the morning and the afternoon *in combination* are high, degradations to all outcomes are evident. Thus, multiple or persisting experiences of illegitimate tasks within a day appear accumulate to be particularly stressful.

In sum, when considering employee state self-esteem and well-being, the evening represents a more sensitive point in time. This may be a result of reduced resources to cope with or manage the illegitimate tasks later in the day and may also be an indication that it is the accumulated, rather than isolated, illegitimate demands that are most relevant to employee health and well-being.

Practical Implications

Several practical implications are applicable. First, these data, along with previous research (Semmer, et al., 2012; Semmer, et al., 2010) support the idea that illegitimate tasks are related to reduced employee well-being, negative employee attitudes, and undesirable employee behaviors. Thus, managers and supervisors should make effort to be aware of the potential for certain kinds of tasks to be perceived as illegitimate. Undoubtedly, managers must focus on accomplishing necessary functional work and leading their subordinates toward organizational goals. However, what these data imply is that managers should also consider what their assignments and requests communicate to the employee. Considering whether their decisions convey messages that employees are not considered fully, are not valued for their individual role in the organization, or are expected to do tasks even if they are unreasonable or unnecessary, may help to prevent illegitimate task episodes. Undoubtedly, leaders in the organization should take action not to put employees in awkward or demeaning situations. Overt situations of humiliation or

indignity are typically easy to recognize and in turn more readily avoidable or remedied when identified. However, tasks which are not saliently offensive may also carry negative consequences. Illegitimate tasks may result from more subtle things such as oversights in decision-making, organizational inefficiencies, or assumptions about appropriate task absorption, and thus require more diligent, heightened awareness to prevent them.

Furthermore, many of these tasks may result from larger issues at the organizational level (rather than arising from the decisions of a manager or supervisor). Thus, organizations and the leaders within them, should recognize the potential for illegitimacy in work tasks to result from climate-related indicators such as the policies, practices, and procedures outlined and enforced by the organizational system. Furthermore, scrutiny of the usefulness and necessity of organizational processes could lead to greater effectiveness as well as more positive employee outcomes. Encouraging feedback from employees and fostering open communication between leaders and subordinates may be one way to identify potential areas for effective change.

It is noteworthy that some tasks may be perceived as illegitimate by one employee, but perceived as perfectly legitimate to another. This may be dependent on a number of personal factors such as the employee's training and education, history with the organization, previous employment experiences, implicit leader-subordinate understandings or agreements, and the employee's personality, preferences, and justice orientation. Because perceptions of illegitimate tasks are experienced through an individual's own lens, it is important for managers and leaders to make extra effort to form meaningful relationships their subordinates and get to know their skills, training, preferences, and personalities. As these data show, some traits, such as high self-esteem,

may indicate more resilience to stressors. Furthermore, open communication about the skills that employees may or may not be willing to apply to work may help delineate where employees perceive their own role boundaries. In addition, being clear and open about one's professional role when first starting a job or when job roles change or evolve may help prevent confusion about what can and cannot be reasonably expected of the employee filling that role.

Further, when the assignment of illegitimate tasks may be unavoidable (i.e. perhaps as a result of reductions in staff due to downsizing), it may be important to be considerate of the way in which the illegitimate tasks are assigned or divided. For example, explaining why certain duties or tasks are unavoidable or the rationale for selecting certain employees to take on certain job tasks may help reduce the threat to employees' self-esteem by demonstrating a level of respect and thoughtfulness. In fact, research in the justice area has shown that explanations for injustices can reduce the negative impact of the transgression (Bobocel & Zdaniuk, 2005).

In addition, these particular data suggest that as the workday unfolds, illegitimate tasks become less tolerable in that they are associated with more strain outcomes later in the workday. Managers and leaders might be particularly aware that as the day carries on, employees may have a reduced ability to cope with illegitimate tasks effectively.

Finally, special attention to employee self-esteem and sense of worth and value to the organization may be one method of repairing instances of illegitimate tasks. For example, appreciation and recognition of an employee's achievement and unique qualities which contribute positively to the organization may help boost one's job satisfaction (Semmer, Tschan, Elfering, Kalin, & Gerbner, 2005) and may also be

methods to reinforce one's professional identity. Positive feedback and social recognition have been shown to positively influence employee performance (Stajkovic & Luthans, 2003) and these reinforcements of social value may also help to counteract the instances when tasks do not convey such a message.

Limitations

The limitations to this research are as follows. First, all data gathered was self-reported, which may raise some question as to how this common method could bias results. However, as described in Spector (2006), common method variance is likely overstated and study design should be based primarily on its purpose and the researcher's desired inference. Self-report is arguably the most appropriate source for measuring illegitimate tasks, as they are based in individual perception, and thus largely inaccessible to an outside observer. Self-report is appropriately matched to the measure of emotions, attitudes, and physical sensations such as tiredness for a similar reason. Thus, the use of a self-report method in this case was determined to be the most adequate approach considering the specific variables of interest.

Next, illegitimate tasks which were experienced in the morning were reported at mid-day and those experienced in the afternoon were reported in the evening. Some retrospection is thus involved in the reporting of these episodes. However, because these reports are temporally close to the actual experience, the retrospective demand is likely quite small.

Furthermore, the scales used to measure well-being indicators were limited to only a few items or in some cases, such as fatigue, just one item. This may reduce the reliability of measurement. However, one strength of this study is that the daily diaries

were quite short, reducing the demand and intrusion of the diary occasions on normal work life. One major limitation to daily diary designs is participant burden (Iida, Shrout, Laurenceau, & Bolger, 2012) since long daily dairies may in and of themselves become a daily hassle. Thus, specific effort was taken to balance the information yield with burden management by being selective about included items. Indeed, one shortened scale (state self-esteem) produced a low internal consistency which may have attenuated the ability to detect relationships. However, because the data are aggregated for each individual over multiple days, the reliability of such measures in this context is greater than that of the same measures in a cross-sectional assessment (Iida et al., 2012).

Another concern is reactance to the methods of daily diary sampling itself. For example, the processes of reporting daily about emotional states and job satisfaction may in and of itself have some effect on the employee's experience. However, this concern may not be great because as described in Iida et al., (2012), any changes in negative emotional states associated with the measurement methods in daily diary research dissipate in the first 2 to 3 days (Gleason, Bolger, & Shrout, 2003). Having collected data for 10 days in the current sample, reactance is likely of little concern.

Finally, while the methods used in this study are substantially better equipped to offer insight into causal effects than strictly cross-sectional designs are, the current work is still limited in fully establishing causal mechanisms. Incorrect specification of the timing of causal effects (e.g. how long it takes illegitimate tasks to produce changes in self-esteem or well-being) remains a possibility and thus, definitive conclusions about causal links are not possible.

Future Research

Many exciting directions for future research are imaginable. First of all, while the current work contributes to the known nomological network of illegitimate tasks, future research should continue to expand upon the potential outcomes associated with this stressor to better establish its network of potentially relevant outcomes. For example, the finding that job satisfaction is associated with illegitimate tasks leads to the question, are they associated with other work attitudes such as organizational commitment?

Furthermore, the finding that fatigue is associated with illegitimate tasks creates a curiosity about other physical outcomes related to this stressor such as increased blood pressure, increased muscular tension, or somatic symptoms such as headaches. In addition, studies aimed at exploring the potential opponent-process relationship between illegitimate tasks and fatigue may lend further insight into what appears to be a complex process.

Next, since this study demonstrated that trait level factors (namely trait level self-esteem) may function as a moderator, additional individual differences should be explored such as personality. Furthermore, given that the premise of the influence of illegitimate tasks on self-esteem and well-being is routed in identity theory (Thoits, 1991), more attention should be given to identity-related factors. For example, the weight or importance of one's belonging to the organization may be particularly important. Accounting for the extent of one's role, job, and organizational identities as well as considering one's level of work centrality (or the degree of importance that work plays in one's life; Walsh & Gordon, 2008), may be especially relevant to better understanding the function of illegitimate tasks. In addition, fairness-related factors such as justice

orientation (see Liao & Rupp, 2005) and relational psychological contract (see Rousseau, 1995) may emerge as important moderators in future research.

Furthermore, given that the current study and other related literature have established the negative effects of illegitimate tasks on employee well-being and behaviors, examining the *predictors* of illegitimate tasks would be quite interesting. In particular, because illegitimate tasks are thought to be a special form of unfair treatment (Semmer et al., 2012), it is possible that managers or leaders may use such tasks as covert or overt management tools. It may interesting to examine how often illegitimate tasks are assigned as a subtle form of manipulation or mistreatment in order to evoke desired behavior or punish undesirable behavior. It is conceivable that there are some instances where a manager intentionally asks for illegitimate tasks (such as completing an unnecessary task like cleaning equipment which is already clean) in order to create the illusion of high task performance by their subordinates or to set work norms. In other words, perhaps illegitimate tasks are sometimes used as a method of social influence. Furthermore, it would be interesting to explore whether personality makes some employees more susceptible to receiving such tasks than others. One could imagine certain traits like agreeableness might lead to more requests for illegitimate personal favors, such as ordering and retrieving a take-out order.

In addition, because of the direct implications of this body of research for management and leadership, future research should investigate how attributions toward one's manager for illegitimate tasks are formed and the potential influence of illegitimate tasks on leader-member exchange and leader perceptions.

Finally, in a general sense, this study also suggests that stressor-strain relationships may actually be more tightly linked as the workday progresses, perhaps due to a reduction in energy or patience later in the day. Some occupational stressors may potentially carry more threat to employee well-being later in employees' workdays. Similar stressors to illegitimate tasks, such as role conflict or interpersonal injustice may have parallel patterns that could be examined with multiple-occasion daily diary designs.

Summary

In sum, illegitimate tasks represent a meaningful occupational stressor which has daily associations with several indicators of employee well-being. In line with the SOS model, high levels of illegitimate task episodes were related to lower state levels of employee self-esteem. Anger and job satisfaction appear to be particularly associated with the experience of illegitimate tasks, but these effects dissipate overnight. Depressive mood was associated with illegitimate tasks, but may develop more slowly across the workday. Illegitimate tasks continued to be related to depressive mood the following morning. Illegitimate tasks appear to have a complex relationship with employee fatigue, an area that should be pursued in future studies. In addition, trait level self-esteem may function to buffer the negative effects of illegitimate tasks on state levels of self-esteem. This suggests that trait level self-esteem can protect employees from the detrimental effects on self-worth resulting from work tasks that convey inconsideration and disrespect. Overall, illegitimate tasks that occur later in the workday may be more stressful. Similarly, accumulated, rather than isolated, illegitimate task episodes may be more influential on employee well-being. Managers and leaders should put forth effort to recognize and prevent illegitimate tasks in the workplace. Pursuing additional work on

the function and boundary conditions of the detrimental effects of illegitimate tasks will undoubtedly be exciting and pervasively relevant to the modern workforce.

Conclusion

The average American devotes a quarter of their living hours to work (U.S. Department of Labor, 2012), only second in total life-consumption to sleep. Our work and our jobs become part of who we are and how we define and identify ourselves. Treatment that signals degradation in social value, inconsideration, and disrespect can damage one's holistic sense of self. What may appear on the surface to be nominal decisions on the part of leaders, can have enormous implications on the affected's sense of value to others and to their organization. Uncovering new knowledge on this topic can inform managers and leaders, with the hopes of evoking positive change. Bringing awareness to the importance of work and work tasks, which is evident even on a daily level, to our sense of self and well-being contributes to the progress toward a healthier population and toward more effective, healthy organizations.

References

- Adams, J. S. (1963). Towards an understanding of inequity. *The Journal of Abnormal and Social Psychology, 67*(5), 422-436. doi: 10.1037/h0040968
- Akerstedt, T., Knutsson, A., Westerholm, P., Theorell, T., Alfredsson, L., & Kecklund, G. (2002). Sleep disturbances, work stress and work hours: A cross-sectional study. *Journal of Psychosomatic Research, 53*, 741-748.
- Akerstedt, T., Orsini, N., Petersen, H., Axelsson, J., Lekander, M., & Kecklund, G. (2012). Predicting sleep quality from stress and prior sleep: A study of day-to-day covariation across six weeks. *Sleep Medicine, 13*(6), 674–679. doi:10.1016/j.sleep.2011.12.013
- Allport, G. W. (1955). *Becoming*. New Haven, CT: Yale University Press.
- Ashforth, B. E. (2001). *Role transitions in organizational life: An identity-based perspective*. Mahwah, NJ US: Lawrence Erlbaum Associates Publishers.
- Baumeister, R. F. (Ed.). (1998). *The self* (4th ed. Vol. 2). New York: McGraw-Hill.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*(3), 497-529. doi: 10.1037/0033-2909.117.3.497
- Bauer, D. J., & Curran, P. J. (2005). Probing interactions in fixed and multilevel regression: Inferential and graphical techniques. *Multivariate Behavioral Research, 40*, 373-400.

- Bauer, T. N., & Green, S. G. (1998). Testing the combined effects of newcomer information seeking and manager behavior on socialization. *Journal of Applied Psychology, 83*, 72–83.
- Beal, D. J., & Weiss, H. M. (2003). Methods of ecological momentary assessment in organizational research. *Organizational Research Methods, 6*(4), 440-464. doi: 10.1177/1094428103257361
- Beck, A.T., Rush, A.J., Shaw, B.F. & Emery, G (1979). *Cognitive Therapy of Depression*. p 11-12. The Guilford Press
- U.S. Department of Labor, Bureau of Labor Statistics (2012, June 12). American Time Use Survey Summary; Retrived from <http://www.bls.gov/news.release/atus.nr0.htm>
- Bobocel, D., & Zdaniuk, A. (2005). *How can explanations be used to foster organizational justice?*. In J. Greenberg, J. A. Colquitt (Eds.), *Handbook of organizational justice* (pp. 469-498). Mahwah, NJ US: Lawrence Erlbaum Associates Publishers.
- Bryk, A. S., & Raudenbush, S. W. (1992). *Hierarchical linear models: Applications and data analysis methods*. Thousand Oaks, CA US: Sage Publications, Inc.
- Cammann, C., Fichman, M., Jenkins, D., & Klesh, J. (1979). *The Michigan Organizational Assessment Questionnaire*. Unpublished manuscript, University of Michigan, Ann Arbor. University of Michigan, Ann Arbor.
- Cohen-Charash, Y., & Spector, P. E. (2001). The role of justice in organizations: A meta-analysis. *Organizational Behavior and Human Decision Processes, 86*(2), 278-321.

- Colquitt, J. A. (2001). On the dimensionality of organizational justice: A construct validation of a measure. *Journal of Applied Psychology, 86*(3), 386-400. doi: 10.1037/0021-9010.86.3.386
- Colquitt, J. A., Conlon, D. E., Wesson, M. J., Porter, C. O., & Ng, K. (2001). Justice at the millennium: A meta-analytic review of 25 years of organizational justice research. *Journal of Applied Psychology, 86*(3), 425-445.
- Connelly, M., & Bickel, J. (2011). An electronic daily diary process study of stress and health behavior triggers of primary headaches in children. *Journal of Pediatric Psychology, 36*(8). doi: 10.1093/jpepsy/jsr017
- Cox, S., Funasaki, K., Smith, L., & Mezulis, A. H. (2012). A prospective study of brooding and reflection as moderators of the relationship between stress and depressive symptoms in adolescence. *Cognitive Therapy And Research, 36*(4), 290-299.
- Crocker, & Park, L. E. (2004). The costly pursuit of self-esteem. *Psychological Bulletin, 130*(3), 392-414. doi: 10.1037/0033-2909.130.3.392
- Crocker, & Wolfe, C. T. (2001). Contingencies of self-worth. *Psychological Review, 108*, 593-623.
- De Cremer, D., van Knippenberg, D., van Dijke, M., & Bos, A. E. R. (2004). How self-relevant is fair treatment? Social self-esteem moderates interactional justice effects. *Social Justice Research, 17*(4), 407-419. doi: 10.1007/s11211-004-2059-x
- Derogatis, L. R., & Melisaratos, N. (1983). The Brief Symptom Inventory: An introductory report. *Psychological Medicine: A Journal of Research in Psychiatry and the Allied Sciences, 13*(3), 595-605. doi: 10.1017/s0033291700048017

- Dickerson, S. S., Gruenewald, T. L., & Kemeny, M. E. (2004). When the social self is threatened: Shame, physiology, and health. *Journal of Personality, 72*(6), 1191-1216. doi: 10.1111/j.1467-6494.2004.00295.x
- Doi, Y., Minowa, M., & Tango, T. (2003). Impact and correlates of poor sleep quality in Japanese white-collar employees. *Sleep, 26*(467–471.).
- Dolbier, C. L., Webster, J. A., McCalister, K. T., Mallon, M. W., & Steinhardt, M. A. (2005). Reliability and validity of a single-item measure of job satisfaction. *American Journal of Health Promotion, 19*(3), 194-198.
- Feliciano, L., Segal, D. L., & Vair, C. L. (2011). Major depressive disorder. In K. Sorocco, S. Lauderdale (Eds.), *Cognitive behavior therapy with older adults: Innovations across care settings* (pp. 31-64). New York, NY US: Springer Publishing Co.
- Fimian, M. J., & Fastenau, P. S. (1990). The validity and reliability of the Teacher Stress Inventory: A re-analysis of aggregate data. *Journal of Organizational Behavior, 11*(2), 151-157. doi: <http://dx.doi.org/10.1002/job.4030110206>
- Folger, R., & Cropanzano, R. (2001). Fairness theory: Justice as accountability. In J. Greenberg & R. Cropanzano (Eds.), *Advances in organization justice*. (pp. 1-55): Stanford University Press.
- Fortunato, V. J., LeBourgeois, M. K., & Harsh, J. (2008). Development of a five-dimensional measure of adult sleep quality. *Educational And Psychological Measurement, 68*(3), 488-514.
- Fox, S., & Spector, P. E. (1999). A model of work frustration-aggression. *Journal of Organizational Behavior, 20*(6), 915-931.

- Fox, S., & Spector, P. E. (2006). *The many roles of control in a stressor-emotion theory of counterproductive work behavior*. In P. L. Perrewé, D. C. Ganster (Eds.), *Employee health, coping and methodologies* (pp. 171-201). US: Elsevier Science/JAI Press.
- Fried, Y., & Ferris, G. R. (1987). The validity of the Job Characteristics Model: A review and meta-analysis. *Personnel Psychology*, 40(2), 287-322. doi: 10.1111/j.1744-6570.1987.tb00605.x
- Frone, M. R. (2000). Interpersonal conflict at work and psychological outcomes: Testing a model among young workers. *Journal of Occupational Health Psychology*, 5(2), 246-255. doi: <http://dx.doi.org/10.1037/1076-8998.5.2.246>
- Gillin, J. C. (1998). Are sleep disturbances risk factors for anxiety, depressive and addictive disorders? *Acta Psychiatrica Scandinavica*, 98, 39-43. doi: 10.1111/j.1600-0447.1998.tb05965.
- Gleason, M.E.J., Bolger, N.P., & ShROUT, P.E. (2003, February). *The effects of study design on reports of mood: Understanding the differences between cross-sectional, panel, and daily-diary designs*. Poster presented at the annual meeting of the Society for Personality and Social Psychology, Los Angeles, CA.
- Golder, S. A., & Macy, M. W. (2011). Diurnal and seasonal mood vary with work, sleep, and daylength across diverse cultures. *Science*, 333(6051), 1878–1881. doi:10.1126/science.1202775

- Greenberg, J. (2006). Losing sleep over organizational injustice: Attenuating insomniac reactions to underpayment inequity with supervisory training in interactional justice. *Journal of Applied Psychology, 91*(1), 58–69. doi:10.1037/0021-9010.91.1.58
- Gonca, S., & Savasir, I. (2001). The relationship between interpersonal schemas and depressive symptomatology. *Journal of Counseling Psychology, 48*, 359-364.
- Guay, F., Delisle, M.-N., Fernet, C., Julien, É., & Senécal, C. (2008). Does task-related identified regulation moderate the sociometer effect? A study of performance feedback, perceived inclusion, and state self-esteem. *Social Behavior and Personality, 36*(2), 239-254. doi: 10.2224/sbp.2008.36.2.239
- Hackman, J., & Oldham, G. R. (1975). Development of the Job Diagnostic Survey. *Journal of Applied Psychology, 60*(2), 159-170.
- Hammen, C., Marks, T., Mayol, A., & DeMayo, R. (1985). Depressive self-schemas, life stress, and vulnerability to depression. *Journal of Abnormal Psychology, 94*(3), 308-319. doi: 10.1037/0021-843x.94.3.308
- Heatherton, T. F., & Polivy, J. (1991). Development and validation of a scale for measuring state self-esteem. *Journal of Personality and Social Psychology*(60), 895-910.
- Iida, M., Shrout, P. E., Laurenceau, J.-P., & Bolger, N. (2012). Using diary methods in psychological research. In H. Cooper (Ed.), *APA Handbook of Research Methods in Psychology, 1*, 277–305.

- Ilgen, D. R., & Hollenbeck, J. R. (1991). The structure of work: Job design and roles. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology, Vol. 2 (2nd ed.)*. (pp. 165-207). Palo Alto, CA US: Consulting Psychologists Press.
- Jex, S. M. (2002). *Organizational psychology: A scientist practitioner approach*. New York: John Wiley & Sons.
- Jex, S. M., & Elacqua, T. C. (1999). Self-esteem as a moderator: A comparison of global and organization-based measures. *Journal of Occupational and Organizational Psychology, 72*(1), 71-81. doi: 10.1348/096317999166509
- Jones, G. R. (1986). Socialization tactics, self-efficacy, and newcomers' adjustment to organizations. *The Academy of Management Journal, 29*, 262–279.
- Judge, T. A., & Bono, J. E. (2001). Relationship of core self-evaluations traits - self-esteem, generalized self-efficacy, locus of control, and emotional stability - with job satisfaction and job performance: A meta-analysis *Journal of Applied Psychology, 86*, 80-92.
- Kahn, R. L., & Byosiore, P. (1992). Stress in organizations. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology, Vol. 3 (2nd ed.)*. (pp. 571-650). Palo Alto, CA US: Consulting Psychologists Press.
- Kivimäki, M., & Kalimo, R. (1996). Self-esteem and the occupational stress process: Testing two alternative models in a sample of blue-collar workers. *Journal of Occupational Health Psychology, 1*(2), 187-196. doi: 10.1037/1076-8998.1.2.187

- Knudsen, H. K., Ducharme, L. J., & Roman, P. M. (2007). Job stress and poor sleep quality: Data from an American sample of full-time workers. *Social Science & Medicine*, 64(10), 1997-2007. doi: 10.1016/j.socscimed.2007.02.020
- Kühnel, J., Sonnentag, S., & Bledow, R. (2011). Resources and time pressure as day-level antecedents of work engagement. *Journal of Occupational and Organizational Psychology*, 85(1), 181–198. doi:10.1111/j.2044-8325.2011.02022.x
- Kuppermann, M., Lubeck, D., Mazonson, P., Patrick, D., Stewart, A., Buesching, D., & Filer, S. (1995). Sleep problems and their correlates in a working population. *Journal of General Internal Medicine*, 10(1), 25-32. doi: 10.1007/bf02599573
- Lallukka, T., Rahkonen, O., Lahelma, E., & Arber, S. (2010). Sleep complaints in middle-aged women and men: the contribution of working conditions and work-family conflicts. *Journal of Sleep Research*, 19(3), 466–477. doi:10.1111/j.1365-2869.2010.00821.x
- Landsbergis, P. A., Schnall, P. L., Belkic, K. L., Schwartz, J., Pickering, T. G., & Baker, D. (2001). Work stressors and cardiovascular disease. *Work: Journal of Prevention, Assessment & Rehabilitation*, 17(3), 191-208.
- Liao, H., & Rupp, D. E. (2005). The impact of justice climate and justice orientation on work outcomes: A cross-level multifoci framework. *Journal of Applied Psychology*, 90(2), 242–256. doi:10.1037/0021-9010.90.2.242
- Linton, S. J. (2004). Does work stress predict insomnia? A prospective study. *British Journal of Health Psychology*, 9(2), 127-136. doi: 10.1348/135910704773891005

- Liu, C., Spector, P. E., & Shi, L. (2007). Cross-national job stress: A quantitative and qualitative study. *Journal of Organizational Behavior*, 28(2), 209-239.
- MacEwen, K. E., & Barling, J. (1994). Daily consequences of work interference with family and family interference with work. *Work & Stress*, 8(3), 244-254.
- Maslow, A. H. (1968). *Motivation and personality*. New York: Harper & Row.
- Mausner-Dorsch, H., & Eaton, W. W. (2000). Psychosocial work environment and depression: Epidemiologic assessment of the demand-control model. *American Journal of Public Health*, 90(11), 1765-1770.
- Meier, L. L., Semmer, N. K., & Hupfeld, J. (2009). The impact of unfair treatment on depressive mood: The moderating role of self-esteem level and self-esteem instability. *Personality and Social Psychology Bulletin*, 35(5), 643-655.
- Meier, L., Semmer, N., & Spector, P. (2012). Unethical behavior as a stressor. In R. A. Giacalone & M. D. Promislo (Eds.), *The handbook of unethical work behavior: Implications for individual well-being (pp.168-182)*. New York: M. E. Sharpe Inc.
- Meier, L. L., Semmer, N. K., & Hupfeld, J. (2009). The impact of unfair treatment on depressive mood: The moderating role of self-esteem level and self-esteem instability. *Personality and Social Psychology Bulletin*, 35(5), 643-655. doi: 10.1177/0146167208331337
- Melamed, S., Shirom, A., Toker, S., Berliner, S., & Shapira, I. (2006). Burnout and risk of cardiovascular disease: Evidence, possible causal paths, and promising research directions. *Psychological Bulletin*, 132(3), 327-353. doi: <http://dx.doi.org/10.1037/0033-2909.132.3.327>

- Mikula, G., Scherer, K. R., & Athenstaedt, U. (1998). The role of injustice in the elicitation of differential emotional reactions. *Personality and Social Psychology Bulletin*, 24(7), 769-783. doi: 10.1177/0146167298247009
- Monk, T. H. (2005). The post-lunch dip in performance. *Clinics in Sports Medicine*, 24(2), e15–e23. doi:10.1016/j.csm.2004.12.002
- Nakata, A., Haratani, T., Takahashi, M., Kawakami, N., Arito, H., Kobayashi, F., & Araki, S. (2004). Job stress, social support, and prevalence of insomnia in a population of Japanese daytime workers. *Social Science & Medicine*, 59(8), 1719-1730. doi: 10.1016/j.socscimed.2004.02.002
- Nasermoaddeli, A., Sekine, M., Hamanishi, S., & Kagamimori, S. (2002). Job strain and sleep quality in Japanese civil servants with special reference to sense of coherence. *Journal of Occupational Health* 44, 337-342.
- Nezlek, J. B. (2012). Multilevel modeling for psychologists. In H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf, K. J. Sher (Eds.), *APA handbook of research methods in psychology, Vol 3: Data analysis and research publication* (pp. 219-241). Washington, DC US: American Psychological Association.
- Noy, Y. I., Horrey, W. J., Popkin, S. M., Folkard, S., Howarth, H. D., & Courtney, T. K. (2011). Future directions in fatigue and safety research. *Accident Analysis and Prevention*, 43(2), 495-497. doi: 10.1016/j.aap.2009.12.017
- Ohly, A., Sonnentag, S., Niessen, C., & Zapf, D. (2010). Diary studies in organizational research: An introduction and some practical recommendations. *Journal of Personnel Psychology*, 9(2), 79-93.

- Preacher, K. J., Curran, P. J., & Bauer, D. J. (2006). Computational tools for probing interaction effects in multiple linear regression, multilevel modeling, and latent curve analysis. *Journal of Educational and Behavioral Statistics, 31*, 437-448.
- Pelfrene, E., Vlerick, P., Kittel, F., Mak, R. P., Kornitzer, M., & Backer, G. D. (2002). Psychosocial work environment and psychological well-being: assessment of the buffering effects in the job demand–control (–support) model in BELSTRESS. *Stress and Health, 18*(1), 43-56. doi: 10.1002/smi.920
- Refinetti, R. (2006). *Circadian Physiology*. Boca Raton, FL: CRC Press.
- Reinecke, M. A., & Jacobs, R. H. (2010). Cognitive-behavioral therapy for depression. In M. K. Dulcan (Ed.), *Dulcan's textbook of child and adolescent psychiatry* (pp. 907-914). Arlington, VA US: American Psychiatric Publishing, Inc.
- Rizzo, J. R., House, R. J., & Lirtzman, S. I. (1970). Role conflict and ambiguity in complex organizations. *Administrative Science Quarterly, 15*(2), 150-163. doi: 10.2307/2391486
- Rogers, C. R. (1961). *On becoming a person*. Boston: Houghton Mifflin.
- Rosen, C. C., Chang, C.-H., Djurdjevic, E., & Eatough, E. (2010). Occupational stressors and job performance: An updated review and recommendations. In P. L. Perrewé & D. C. Ganster (Eds.), *New developments in theoretical and conceptual approaches to job stress*. (pp. 1-60). Bingley United Kingdom: Emerald Group Publishing.
- Rosenberg, M. (1989). *Society and the adolescent self-image (rev. ed.)*. Middletown, CT England: Wesleyan University Press.

- Rousseau, D. M. (1995). *Psychological contracts in organizations: Understanding written and unwritten agreements*. Thousand Oaks, CA US: Sage Publications, Inc.
- Saks, A. M., Uggerslev, K. L., & Fassina, N. E. (2007). Socialization tactics and newcomer adjustment: A meta-analytic review and test of a model. *Journal of Vocational Behavior*, 70(3), 413–446. doi:10.1016/j.jvb.2006.12.004
- Schermbaum, C. A., & Fetterer, J. M. (2009). Estimating statistical power and required sample sizes for organizational research using multilevel modeling. *Organizational Research Methods*, 12(2), 347-367.
- Semmer, N., Jacobshagen, N., Meier, L., & Elfering, A. (2012). *Illegitimate tasks as a source of stress*. Unpublished manuscript.
- Semmer, N., Jacobshagen, N., Meier, L., & Elfering, A. (2007). Occupational stress research: The "stress as offense to self" perspective. In: J. Houdmont & S. McIntyre (Eds), *Occupational health psychology: European perspectives on research, education and practice* (pp. 43–60). ISMAI: Avioso S.
- Semmer, N., Tschan, F., Meier, L., Facchin, S., & Jacobshagen, N. (2010). Illegitimate tasks and counterproductive work behavior. *Applied Psychology*, 59(1), 70-96. doi: 10.1111/j.1464-0597.2009.00416.x
- Semmer, N.K., Tschan, F., Elfering, A., Kalin, W., & Grebner, S. (2005). Young adults entering the workforce in Switzerland: Working conditions and well-being. In H. Kriesi, P. Farago, M. Kohli, & M. Zarin-Nejadan (Eds.), *Contemporary Switzerland: Revisiting the special cast!* (pp. 163-189). Houndmills, UK: Palgrave Macmillan.

- Semmer, N. K., McGrath, J. E., & Beehr, T. A. (2005). *Conceptual issues in research on stress and health*. New York: CRC Press.
- Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston: Houghton Mifflin.
- Scheff, T. J., & Retzinger, S. M. (1991). *Emotions and violence: Shame and rage in destructive conflicts*. Lexington: Lexington Books.
- Siegrist, J. (1996). Adverse health effects of high-effort/low-reward conditions. *Journal of Occupational Health Psychology, 1*(1), 27-41. doi: 10.1037/1076-8998.1.1.27
- Sluss, D. M., & Ashforth, B. E. (2007). Relational Identity and Identification: Defining Ourselves Through Work Relationships. *Academy of Management Review, 32*(1), 9-32.
- Snijders, T. A. (2005). *Power and sample size in multilevel modeling*. Chichester, UK: Wiley.
- Solomon, R. L., & Corbit, J. D. (1974). An opponent-process theory of motivation: Temporal dynamics of affect. *Psychological Review, 81*(2), 119-145.
- Spector, P. E. (1997). *Job satisfaction: Application, assessment, causes, and consequences*. Thousand Oaks, CA, US: Sage Publications, Inc.
- Spector, P. E. (2006). Method variance in organizational research: Truth or urban legend? *Organizational Research Methods, 9*, 221-232.
- Spector, P. E., Dwyer, D. J., & Jex, S. M. (1988). Relation of job stressors to affective, health, and performance outcomes: A comparison of multiple data sources. *Journal of Applied Psychology, 73*(1), 11-19.

- Spector, P. E., & Jex, S. M. (1998). Development of four self-report measures of job stressors and strain: Interpersonal Conflict at Work Scale, Organizational Constraints Scale, Quantitative Workload Inventory, and Physical Symptoms Inventory. *Journal of Occupational Health Psychology, 3*(4), 356-367.
- Stone, A. A., Schwartz, J. E., Schkade, D., Schwarz, N., Krueger, A., & Kahneman, D. (2006). A population approach to the study of emotion: Diurnal rhythms of a working day examined with the day reconstruction method. *Emotion, 6*(1), 139–149. doi:10.1037/1528-3542.6.1.139
- Strine, T. W., & Chapman, D. P. (2005). Associations of frequent sleep insufficiency with health-related quality of life and health behaviors. *Sleep Medicine, 6* (1), 23-27.
- Stryker, S., & Burke, P. J. (2000). The past, present, and future of an identity theory. *Social Psychology Quarterly, 63*(4), 284-297. doi: 10.2307/2695840
- Tangney, J. P., Wagner, P. E., Fletcher, C., & Gramzow, R. (1992). Shamed into anger? The relation of shame and guilt to anger and self-reported aggression. *Journal of Personality and Social Psychology, 62*, 669–675.
- Tangney, J. P., Wagner, P. E., Hill-Barlow, D., Marschall, D. E., & Gramzow, R. (1996). Relation of shame and guilt to constructive versus destructive responses to anger across the lifespan. *Journal of Personality and Social Psychology, 70*, 797–809.
- Thoits, P. A. (1991). On merging identity theory and stress research. *Social Psychology Quarterly, 54*(2), 101-112. doi: 10.2307/2786929

- Thomaes, S., Stegge, H., Olthof, T., Bushman, B. J., & Nezlek, J. B. (2011). Turning shame inside-out: “humiliated fury” in young adolescents. *Emotion, 11*(4), 786–793. doi:10.1037/a0023403
- van Dellen, M. R., Bradfield, E. K., & Hoyle, R. H. (2010). Self-regulation of state self-esteem following threat: Moderation by trait self-esteem. In R. H. Hoyle (Ed.), *Handbook of personality and self-regulation*. (pp. 430-446): Wiley-Blackwell.
- van Hooff, M. L. M., Geurts, S. A. E., Beckers, D. G. J., & Kompier, M. A. J. (2011). Daily recovery from work: The role of activities, effort and pleasure. *Work & Stress, 25*(1), 55–74. doi:10.1080/02678373.2011.570941
- Walsh, K., & Gordon, J. R. (2008). Creating an individual work identity. *Human Resource Management Review, 18*, 46–61.
- Wanberg, C. R., & Kammeyer-Mueller, J. D. (2000). Predictors and outcomes of proactivity in the socialization process. *Journal of Applied Psychology, 85*(3), 373–385. doi:10.1037//0021-9010.85.3.373
- Warr, P. (1990). The measurement of well-being and other aspects of mental health. *Journal of Occupational Psychology, 63*(3), 193-210.
- Warr, P. (2007). *Work, happiness, and unhappiness*. Mahwah, NJ US: Lawrence Erlbaum Associates Publishers.
- Weiss, H. M., Suckow, K., & Cropanzano, R. (1999). Effects of justice conditions on discrete emotions. *Journal of Applied Psychology, 84*(5), 786-794.
- Wong, M., Lau, E., Wan, J., Cheung, S., Hui, C., & Mok, D. (2012). The interplay between sleep and mood in predicting academic functioning, physical health and

psychological health: A longitudinal study. *Journal Of Psychosomatic Research*,
doi:10.1016/j.jpsychores.2012.08.014

Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2007). The role of personal resources in the job demands-resources model. *International Journal of Stress Management*, 14(2), 121-141. doi: 10.1037/1072-5245.14.2.121

Yang, L.-Q., Che, H., & Spector, P. E. (2008). Job stress and well-being: An examination from the view of person-environment fit. *Journal of Occupational and Organizational Psychology*, 81(3), 567-587.

Appendices

Appendix A: Additional Tables

Table A1

Effects of BITS Experienced in the Morning (Reported at Mid-day) on Mid-day State Self-Esteem

		Mid-day State Self-Esteem	
<i>Fixed Effects</i>		<i>Coefficient</i>	<i>SE</i>
Intercept (γ_{00})		4.31*	.06
Morning Self-Esteem (γ_{10})		.21*	.05
BITS Mid-day (γ_{20})		-.03	.03
BITS Mid-day	<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})	4.31*	.05
	Trait Self-Esteem (γ_{01})	.57*	.12
	Morning Self-Esteem (γ_{10})	.22*	.05
	BITS Mid-day (γ_{20})	-.03	.02
	Trait SE*BITS Mid-day (γ_{21})	.11†	.06

Note. N = 90; * $p < .05$; † $p = .06$. BITS Mid-day = Illegitimate tasks measured at the mid-day occasion, reflecting morning experience. Morning Self-Esteem = State self-esteem at the morning occasion. Trait SE = Trait self-esteem.

Table A2

Effects of BITS Experienced in the Morning (Reported at Mid-day) on Evening State Self-Esteem

		Evening State Self-Esteem	
<i>Fixed Effects</i>		<i>Coefficient</i>	<i>SE</i>
Intercept (γ_{00})		4.31*	.06
Morning Self-Esteem (γ_{10})		.18*	.06
BITS Mid-day (γ_{20})		-.02	.02
BITS Mid-day	<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})	4.31*	.05
	Trait Self-Esteem (γ_{01})	.60*	.12
	Morning Self-Esteem (γ_{10})	.19*	.05
	BITS Mid-day (γ_{20})	-.01	.02
	Trait SE*BITS Mid-day (γ_{21})	.07*	.03

Note. N = 90; * $p < .05$. BITS Mid-day = Illegitimate tasks measured at the mid-day occasion, reflecting morning experience. Morning Self-Esteem = State self-esteem at the morning occasion. Trait SE = Trait self-esteem.

Table A3

Effects of BITS Experienced in the Afternoon (Reported at Evening) on Evening State Self-Esteem.

		Evening State Self-Esteem	
<i>Fixed Effects</i>		<i>Coefficient</i>	<i>SE</i>
Intercept (γ_{00})		4.31*	.06
Morning Self-Esteem (γ_{10})		.20*	.06
BITS Evening (γ_{20})		-.06*	.02
<hr/>			
BITS Evening	<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})	4.31*	.05
	Trait Self-Esteem (γ_{01})	.59*	.12
	Morning Self-Esteem (γ_{10})	.21*	.06
	BITS Evening (γ_{20})	-.06*	.02
	Trait SE*BITS Evening (γ_{21})	.01	.04

Note. N = 90; * $p < .05$. BITS Evening = Illegitimate tasks measured at the evening occasion, reflecting afternoon experience. Morning Self-Esteem = State self-esteem at the morning occasion. Trait SE = Trait self-esteem

Table A4

Effects of BITS Experienced Across the Workday on Evening Anger

		Evening State Self-Esteem	
<i>Fixed Effects</i>		<i>Coefficient</i>	<i>SE</i>
Intercept (γ_{00})		4.32*	.06
Morning Self-Esteem (γ_{10})		.20*	.02
BITS Day (γ_{20})		-.05*	.02
<hr/>			
BITS Day	<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})	4.32*	.05
	Trait Self-Esteem (γ_{01})	.59*	.12
	Morning Self-Esteem (γ_{10})	.21*	.05
	BITS Day (γ_{20})	-.05*	.02
	Trait SE*BITS Day (γ_{21})	.03	.04

Note. N = 90; * $p < .05$. BITS Day = Illegitimate tasks across the day. Morning Self-Esteem = State self-esteem at the morning occasion. Trait SE = Trait self-esteem.

Table A5

Effects of BITS Experienced in the Afternoon (Reported at Evening) on State Self-Esteem the Following Morning

		Following Morning State Self-Esteem	
		<i>Coefficient</i>	<i>SE</i>
<i>Fixed Effects</i>			
	Intercept (γ_{00})	4.32*	.06
	Morning Self-Esteem (γ_{10})	.14*	.06
	BITS Evening (γ_{20})	.02	.02
<hr/>			
BITS Evening	<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})	4.32*	.05
	Trait Self-Esteem (γ_{01})	.55*	.12
	Morning Self-Esteem (γ_{10})	.15*	.06
	BITS Evening (γ_{20})	.01	.02
	Trait SE*BITS Evening (γ_{21})	.01	.03

Note. N = 90; * $p < .05$. BITS Evening = Illegitimate tasks measured at the evening occasion, reflecting afternoon experience. Morning Self-Esteem = State self-esteem at the morning occasion. Trait SE = Trait self-esteem.

Table A6

Effects of BITS Experienced Across the Workday on State Self-Esteem the Following Morning

		Following Morning State Self-Esteem	
		<i>Coefficient</i>	<i>SE</i>
<i>Fixed Effects</i>			
	Intercept (γ_{00})	4.32*	.06
	Morning Self-Esteem (γ_{10})	.13*	.06
	BITS Day (γ_{20})	-.01	.03
<hr/>			
BITS Day	<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})	4.32*	.05
	Trait Self-Esteem (γ_{01})	.56*	.12
	Morning Self-Esteem (γ_{10})	.11	.05
	BITS Day (γ_{20})	-.01	.02
	Trait SE*BITS Day (γ_{21})	.06	.04

Note. N = 90; * $p < .05$. BITS Day = Illegitimate tasks across the day. Morning Self-Esteem = State self-esteem at the morning occasion. Trait SE = Trait self-esteem.

Table A7

Effects of BITS Experienced Across the Workday on State Self-Esteem the Following Day

		Following Day Self-Esteem	
		<i>Fixed Effects</i>	<i>Coefficient</i> <i>SE</i>
		Intercept (γ_{00})	4.31* .06
		Morning Self-Esteem (γ_{10})	.13* .04
		BITS Day (γ_{20})	.00 .01
BITS Day		<i>Fixed Effects</i>	<i>Coefficient</i> <i>SE</i>
		Intercept (γ_{00})	4.31 .05
		Trait Self-Esteem (γ_{01})	.59* .12
		Morning Self-Esteem (γ_{10})	.14* .04
		BITS Day (γ_{20})	.01 .01
	Trait SE*BITS Day (γ_{21})	.04* .02	

Note. N = 90; * $p < .05$. BITS Day = Illegitimate tasks across the day. Morning Self-Esteem = State self-esteem at the morning occasion. Trait SE = Trait self-esteem.

Table A8

Effects of BITS Experienced in the Morning (Reported at Mid-day) on Mid-day Anger

Mid-day Anger			
	<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})	1.35*	.04
	Morning Anger (γ_{10})	.16*	.06
	BITS Mid-day (γ_{20})	.24*	.04
BITS Mid-day	<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})	1.34*	.04
	Trait Self-Esteem (γ_{01})	-.09	.06
	Morning Anger (γ_{10})	.16*	.06
	BITS Mid-day (γ_{20})	.24*	.04
	Trait SE*BITS Mid-day (γ_{21})	.04	.07

Note. N = 90; * $p < .05$. BITS Mid-day = Illegitimate tasks measured at the mid-day occasion, reflecting morning experience. Morning Anger = Anger at the morning occasion. Trait SE = Trait self-esteem.

Table A9

Effects of BITS Experienced in the Morning (Reported at Mid-day) on Evening Anger

Evening Anger			
	<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})	1.35*	.05
	Morning Anger (γ_{10})	.04	.05
	BITS Mid-day (γ_{20})	.15*	.06
BITS Mid-day	<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})	1.35*	.05
	Trait Self-Esteem (γ_{01})	-.08	.08
	Morning Anger (γ_{10})	.04	.05
	BITS Mid-day (γ_{20})	.14*	.05
	Trait SE*BITS Mid-day (γ_{21})	-.09	.09

Note. N = 90; * $p < .05$. BITS Mid-day = Illegitimate tasks measured at the mid-day occasion, reflecting morning experience. Morning Anger = Anger at the morning occasion. Trait SE = Trait self-esteem.

Table A10

Effects of BITS Experienced in the Afternoon (Reported at Evening) on Evening Anger

		Evening Anger	
		<i>Fixed Effects</i>	
		<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})	1.35*	.04
	Morning Anger (γ_{10})	.02	.06
	BITS Evening (γ_{20})	.33*	.05
	<hr/>		
BITS Evening	<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})	1.35*	.04
	Trait Self-Esteem (γ_{01})	-.08	.07
	Morning Anger (γ_{10})	.03	.06
	BITS Evening (γ_{20})	.33*	.05
	Trait SE*BITS Evening (γ_{21})	-.02	.08

Note. N = 90; * $p < .05$. BITS Evening = Illegitimate tasks measured at the evening occasion, reflecting afternoon experience. Morning Anger = Anger at the morning occasion. Trait SE = Trait self-esteem.

Table A11

Effects of BITS Experienced Across the Workday on Evening Anger

		Evening Anger	
		<i>Fixed Effects</i>	
		<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})	1.35*	.04
	Morning Anger (γ_{10})	.04	.05
	BITS Day (γ_{20})	.31*	.06
	<hr/>		
BITS Day	<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})	1.35*	.04
	Trait Self-Esteem (γ_{01})	-.08	.07
	Morning Anger (γ_{10})	.04	.05
	BITS Day (γ_{20})	.31*	.06
	Trait SE*BITS Day (γ_{21})	-.05	.10

Note. N = 90; * $p < .05$. BITS Day = Illegitimate tasks across the day. Morning Anger = Anger at the morning occasion. Trait SE = Trait self-esteem.

Table A12

Effects of BITS Experienced in the Afternoon (Reported at Evening) on Anger the Following Morning

		Following Morning Anger	
<i>Fixed Effects</i>		<i>Coefficient</i>	<i>SE</i>
Intercept (γ_{00})		1.20*	.04
Morning Anger (γ_{10})		-.14*	.05
BITS Evening (γ_{20})		.05	.05

BITS Evening	<i>Fixed Effects</i>		<i>Coefficient</i>	<i>SE</i>
Intercept (γ_{00})		1.20*	.03	
Trait Self-Esteem (γ_{01})		-.06	.05	
Morning Anger (γ_{10})		-.14*	.05	
BITS Evening (γ_{20})		.05	.05	
Trait SE*BITS Evening (γ_{21})		-.01	.04	

Note. N = 90; * $p < .05$. BITS Evening = Illegitimate tasks measured at the evening occasion, reflecting afternoon experience. Morning Anger = Anger at the morning occasion. Trait SE = Trait self-esteem.

Table A13

Effects of BITS Experienced Across the Workday on Anger the Following Morning

		Following Morning Anger	
<i>Fixed Effects</i>		<i>Coefficient</i>	<i>SE</i>
Intercept (γ_{00})		1.21*	.03
Morning Anger (γ_{10})		-.10*	.05
BITS Day (γ_{20})		.04	.05

BITS Day	<i>Fixed Effects</i>		<i>Coefficient</i>	<i>SE</i>
Intercept (γ_{00})		1.21*	.03	
Trait Self-Esteem (γ_{01})		-.04	.04	
Morning Anger (γ_{10})		-.10*	.05	
BITS Day (γ_{20})		.04	.05	
Trait SE*BITS Day (γ_{21})		-.02	.05	

Note. N = 90; * $p < .05$. BITS Day = Illegitimate tasks across the day. Morning Anger = Anger at the morning occasion. Trait SE = Trait self-esteem.

Table A14

Effects of BITS Experienced Across the Workday on Anger the Following Day

		Following Day Anger		
		<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
		Intercept (γ_{00})	1.30*	.03
		Morning Anger (γ_{10})	-.10	.05
		BITS Day (γ_{20})	.01	.04
BITS Day		<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
		Intercept (γ_{00})	1.29*	.04
		Trait Self-Esteem (γ_{01})	-.03	.06
		Morning Anger (γ_{10})	-.10*	.05
		BITS Day (γ_{20})	.01	.04
	Trait SE*BITS Day (γ_{21})	-.08	.07	

Note. N = 90; * $p < .05$. BITS Day = Illegitimate tasks across the day. Morning Anger = Anger at the morning occasion. Trait SE = Trait self-esteem.

Table A15

Effects of BITS Experienced in the Morning (Reported at Mid-day) on Mid-day Depressive Mood

		Mid-day Depression	
<i>Fixed Effects</i>		<i>Coefficient</i>	<i>SE</i>
Intercept (γ_{00})		1.18*	.04
Morning Depression (γ_{10})		.16*	.05
BITS Mid-day (γ_{20})		.03	.03
<hr/>			
BITS Mid-day	<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
Intercept (γ_{00})		1.18*	.04
Trait Self-Esteem (γ_{01})		-.25*	.12
Morning Depression (γ_{10})		.16*	.05
BITS Mid-day (γ_{20})		.03	.03
Trait SE*BITS Mid-day (γ_{21})		.02	.05

Note. N = 90; * $p < .05$. BITS Mid-day = Illegitimate tasks measured at the mid-day occasion, reflecting morning experience. Morning Depression = Depressive mood at the morning occasion. Trait SE = Trait self-esteem.

Table A16

Effects of BITS Experienced in the Morning (Reported at Mid-day) on Evening Depressive Mood

		Evening Depression	
<i>Fixed Effects</i>		<i>Coefficient</i>	<i>SE</i>
Intercept (γ_{00})		1.23*	.05
Morning Depression (γ_{10})		.15*	.07
BITS Mid-day (γ_{20})		.03	.03
<hr/>			
BITS Mid-day	<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
Intercept (γ_{00})		1.23*	.05
Trait Self-Esteem (γ_{01})		-.26	.134
Morning Depression (γ_{10})		.15	.08
BITS Mid-day (γ_{20})		.03	.03
Trait SE*BITS Mid-day (γ_{21})		.03	.04

Note. N = 90; * $p < .05$. BITS Mid-day = Illegitimate tasks measured at the mid-day occasion, reflecting morning experience. Morning Depression = Depressive mood at the morning occasion. Trait SE = Trait self-esteem.

Table A17

Effects of BITS Experienced in the Afternoon (Reported at Evening) on Evening Depressive Mood

		Evening Depression	
<i>Fixed Effects</i>		<i>Coefficient</i>	<i>SE</i>
Intercept (γ_{00})		1.23*	.05
Morning Depression (γ_{10})		.14*	.06
BITS Evening (γ_{20})		.11*	.04

BITS Evening	<i>Fixed Effects</i>		<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})	1.23*	.05	
Trait Self-Esteem (γ_{01})	-.24	.14		
Morning Depression (γ_{10})	.14*	.06		
BITS Evening (γ_{20})	.11*	.04		
Trait SE*BITS Evening (γ_{21})	.02	.04		

Note. N = 90; * $p < .05$. BITS Evening = Illegitimate tasks measured at the evening occasion, reflecting afternoon experience. Morning Depression = Depressive mood at the morning occasion. Trait SE = Trait self-esteem.

Table A18

Effects of BITS Experienced Across the Workday on Evening Depressive Mood

		Evening Depression	
<i>Fixed Effects</i>		<i>Coefficient</i>	<i>SE</i>
Intercept (γ_{00})		1.23*	.05
Morning Depression (γ_{10})		.08	.06
BITS Day (γ_{20})		.09*	.04

BITS Day	<i>Fixed Effects</i>		<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})	1.23*	.05	
Trait Self-Esteem (γ_{01})	-.23	.14		
Morning Depression (γ_{10})	.09	.06		
BITS Day (γ_{20})	.09*	.04		
Trait SE*BITS Day (γ_{21})	.03	.06		

Note. N = 90; * $p < .05$. BITS Day = Illegitimate tasks across the day. Morning Depression = Depressive mood at the morning occasion. Trait SE = Trait self-esteem.

Table A19

Effects of BITS Experienced in the Afternoon (Reported at Evening) on Depressive Mood the Following Morning

		Following Morning Depression	
		<i>Fixed Effects</i>	<i>Coefficient</i> <i>SE</i>
		Intercept (γ_{00})	1.23* .06
		Morning Depression (γ_{10})	.06 .09
		BITS Evening (γ_{20})	.07* .03
BITS Evening	<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})	1.23*	.05
	Trait Self-Esteem (γ_{01})	-.24	.13
	Morning Depression (γ_{10})	.04	.08
	BITS Evening (γ_{20})	.06*	.03
	Trait SE*BITS Evening (γ_{21})	.04	.03

Note. N = 90; * $p < .05$. BITS Evening = Illegitimate tasks measured at the evening occasion, reflecting afternoon experience. Morning Depression = Depressive mood at the morning occasion. Trait SE = Trait self-esteem.

Table A20

Effects of BITS Experienced Across the Workday on Depressive Mood the Following Morning

		Following Morning Depression	
		<i>Fixed Effects</i>	<i>Coefficient</i> <i>SE</i>
		Intercept (γ_{00})	1.21* .05
		Morning Depression (γ_{10})	-.04 .07
		BITS Day (γ_{20})	.09* .04
BITS Day	<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})	1.21*	.05
	Trait Self-Esteem (γ_{01})	-.22	.13
	Morning Depression (γ_{10})	-.05	.06
	BITS Day (γ_{20})	.08*	.04
	Trait SE*BITS Day (γ_{21})	.01	.04

Note. N = 90; * $p < .05$. BITS Day = Illegitimate tasks across the day. Morning Depression = Depressive mood at the morning occasion. Trait SE = Trait self-esteem.

Table A21

Effects of BITS Experienced Across the Workday on Depressive Mood the Following Day

Following Day Depression		
<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
Intercept (γ_{00})	1.21*	.05
Morning Depression (γ_{10})	-.05	.04
BITS Day (γ_{20})	.02	.03
<hr/>		
BITS Day	<i>Fixed Effects</i>	<i>Coefficient</i> <i>SE</i>
	Intercept (γ_{00})	1.21* .05
	Trait Self-Esteem (γ_{01})	-.23 .13
	Morning Depression (γ_{10})	-.04 .03
	BITS Day (γ_{20})	.02 .03
	Trait SE*BITS Day (γ_{21})	-.06 .04

Note. N = 90; * $p < .05$. BITS Day = Illegitimate tasks across the day. Morning Depression = Depressive mood at the morning occasion. Trait SE = Trait self-esteem.

Table A22

Effects of BITS Experienced in the Morning (Reported at Mid-day) on Mid-day Fatigue

		Mid-day Fatigue	
		<i>Coefficient</i>	<i>SE</i>
<i>Fixed Effects</i>			
	Intercept (γ_{00})	2.19*	.08
	Morning Fatigue (γ_{10})	.38*	.04
	BITS Mid-day (γ_{20})	.05	.05
<i>Fixed Effects</i>			
BITS Mid-day	Intercept (γ_{00})	2.19*	.08
	Trait Self-Esteem (γ_{01})	-.33	.16
	Morning Fatigue (γ_{10})	.38*	.04
	BITS Mid-day (γ_{20})	.05	.05
	Trait SE*BITS Mid-day (γ_{21})	-.15	.13

Note. N = 90; * $p < .05$. BITS Mid-day = Illegitimate tasks measured at the mid-day occasion, reflecting morning experience. Morning Fatigue = Fatigue at the morning occasion. Trait SE = Trait self-esteem.

Table A23

Effects of BITS Experienced in the Morning (Reported at Mid-day) on Evening Fatigue

		Evening Fatigue	
		<i>Coefficient</i>	<i>SE</i>
<i>Fixed Effects</i>			
	Intercept (γ_{00})	2.57*	.10
	Morning Fatigue (γ_{10})	.25*	.05
	BITS Mid-day (γ_{20})	.08	.06
<i>Fixed Effects</i>			
BITS Mid-day	Intercept (γ_{00})	2.57*	.10
	Trait Self-Esteem (γ_{01})	-.19	.18
	Morning Fatigue (γ_{10})	.25*	.05
	BITS Mid-day (γ_{20})	.08*	.06
	Trait SE*BITS Mid-day (γ_{21})	.06	.09

Note. N = 90; * $p < .05$. BITS Mid-day = Illegitimate tasks measured at the mid-day occasion, reflecting morning experience. Morning Fatigue = Fatigue at the morning occasion. Trait SE = Trait self-esteem.

Table A24

Effects of BITS Experienced in the Afternoon (Reported at Evening) on Evening Fatigue

		Evening Fatigue	
<i>Fixed Effects</i>		<i>Coefficient</i>	<i>SE</i>
Intercept (γ_{00})		2.58*	.10
Morning Fatigue (γ_{10})		.24*	.04
BITS Evening (γ_{20})		.13*	.05
BITS Evening	<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})	2.58*	.10
	Trait Self-Esteem (γ_{01})	-.16	.18
	Morning Fatigue (γ_{10})	.24*	.04
	BITS Evening (γ_{20})	.14*	.05
	Trait SE*BITS Evening (γ_{21})	.15	.09

Note. N = 90; * $p < .05$. BITS Evening = Illegitimate tasks measured at the evening occasion, reflecting afternoon experience. Morning Fatigue = Fatigue at the morning occasion. Trait SE = Trait self-esteem.

Table A25

Effects of BITS Experienced Across the Workday on Evening Fatigue

		Evening Fatigue	
<i>Fixed Effects</i>		<i>Coefficient</i>	<i>SE</i>
Intercept (γ_{00})		2.58*	.10
Morning Fatigue (γ_{10})		.23*	.04
BITS Day (γ_{20})		.15*	.07
BITS Day	<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})	2.58*	.10
	Trait Self-Esteem (γ_{01})	-.15	.18
	Morning Fatigue (γ_{10})	.23*	.04
	BITS Day (γ_{20})	.16*	.07
	Trait SE*BITS Day (γ_{21})	.17	.12

Note. N = 90; * $p < .05$. BITS Day = Illegitimate tasks across the day. Morning Fatigue = Fatigue at the morning occasion. Trait SE = Trait self-esteem.

Table A26

Effects of BITS Experienced in the Afternoon (Reported at Evening) on Fatigue the Following Morning

		Following Morning Fatigue	
<i>Fixed Effects</i>		<i>Coefficient</i>	<i>SE</i>
Intercept (γ_{00})		2.24*	.09
Morning Fatigue (γ_{10})		-.15*	.06
BITS Evening (γ_{20})		-.05	.06

BITS Evening	<i>Fixed Effects</i>		<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})		2.20*	.09
	Trait Self-Esteem (γ_{01})		-.43*	.18
	Morning Fatigue (γ_{10})		-.14*	.06
	BITS Evening (γ_{20})		-.05	.06
	Trait SE*BITS Evening (γ_{21})		.07	.09

Note. N = 90; * $p < .05$. BITS Evening = Illegitimate tasks measured at the evening occasion, reflecting afternoon experience. Morning Fatigue = Fatigue at the morning occasion. Trait SE = Trait self-esteem.

Table A27

Effects of BITS Experienced Across the Workday on Fatigue the Following Morning

		Following Morning Fatigue	
<i>Fixed Effects</i>		<i>Coefficient</i>	<i>SE</i>
Intercept (γ_{00})		2.19*	.09
Morning Fatigue (γ_{10})		-.15*	.05
BITS Day (γ_{20})		-.14*	.07

BITS Day	<i>Fixed Effects</i>		<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})		2.19*	.09
	Trait Self-Esteem (γ_{01})		-.42	.16
	Morning Fatigue (γ_{10})		-.14*	.05
	BITS Day (γ_{20})		-.15*	.07
	Trait SE*BITS Day (γ_{21})		-.11	.10

Note. N = 90; * $p < .05$. BITS Day = Illegitimate tasks across the day. Morning Fatigue = State fatigue at the morning occasion. Trait SE = Trait self-esteem.

Table A28

Effects of BITS Experienced Across the Workday on Fatigue the Following Day

		Following Day Fatigue	
		<i>Coefficient</i>	<i>SE</i>
<i>Fixed Effects</i>			
	Intercept (γ_{00})	2.28*	.08
	Morning Fatigue (γ_{10})	-.11*	.04
	BITS Day (γ_{20})	-.13*	.06
<i>Fixed Effects</i>			
BITS Day	Intercept (γ_{00})	2.27*	.08
	Trait Self-Esteem (γ_{01})	-.33	.15
	Morning Fatigue (γ_{10})	-.11*	.04
	BITS Afternoon (γ_{20})	-.14*	.06
	Trait SE*BITS Day (γ_{21})	-.14	.09

Note. N = 90; * $p < .05$. BITS Day = Illegitimate tasks across the day. Morning Fatigue = Fatigue at the morning occasion. Trait SE = Trait self-esteem.

Table A29

Effects of BITS Experienced in the Morning (Reported at Mid-day) on Mid-day Job Satisfaction

		Mid-day Job Satisfaction	
		<i>Coefficient</i>	<i>SE</i>
	<i>Fixed Effects</i>		
	Intercept (γ_{00})	3.78*	.09
	Morning Job Satisfaction (γ_{10})	.29*	.04
	BITS Mid-day (γ_{20})	-.18*	.03
BITS Mid-day	<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})	3.78*	.09
	Trait Self-Esteem (γ_{01})	.07	.16
	Morning Job Satisfaction (γ_{10})	.29*	.04
	BITS Mid-day (γ_{20})	-.18*	.03
	Trait SE*BITS Mid-day (γ_{21})	.04	.07

Note. N = 90; * $p < .05$. BITS Mid-day = Illegitimate tasks measured at the mid-day occasion, reflecting morning experience. Morning Job Satisfaction = Job satisfaction at the morning occasion. Trait SE = Trait self-esteem.

Table A30

Effects of BITS Experienced in the Morning (Reported at Mid-day) on Evening Job Satisfaction

		Evening Job Satisfaction	
		<i>Coefficient</i>	<i>SE</i>
	<i>Fixed Effects</i>		
	Intercept (γ_{00})	3.76*	.10
	Morning Job Satisfaction (γ_{10})	.21*	.06
	BITS Mid-day (γ_{20})	-.09*	.05
BITS Mid-day	<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})	3.76*	.10
	Trait Self-Esteem (γ_{01})	.08	.17
	Morning Job Satisfaction (γ_{10})	.21*	.06
	BITS Mid-day (γ_{20})	-.09*	.05
	Trait SE*BITS Mid-day (γ_{21})	.01	.07

Note. N = 90; * $p < .05$. BITS Mid-day = Illegitimate tasks measured at the mid-day occasion, reflecting morning experience. Morning Job Satisfaction = Job satisfaction at the morning occasion. Trait SE = Trait self-esteem.

Table A31

Effects of BITS Experienced in the Afternoon (Reported at Evening) on Evening Job Satisfaction

		Evening Job Satisfaction	
		<i>Coefficient</i>	<i>SE</i>
<i>Fixed Effects</i>			
	Intercept (γ_{00})	3.75*	.10
	Morning Anger (γ_{10})	.14*	.06
	BITS Evening (γ_{20})	-.20*	.04
<i>Fixed Effects</i>			
BITS Evening	Intercept (γ_{00})	3.75*	.10
	Trait Self-Esteem (γ_{01})	.06	.17
	Morning Job Satisfaction (γ_{10})	.14*	.06
	BITS Evening (γ_{20})	-.20*	.04
	Trait SE*BITS Evening (γ_{21})	-.06	.06

Note. N = 90; * $p < .05$. BITS Evening = Illegitimate tasks measured at the evening occasion, reflecting afternoon experience. Morning Job Satisfaction = Job satisfaction at the morning occasion. Trait SE = Trait self-esteem.

Table A32

Effects of BITS Experienced Across the Workday on Evening Job Satisfaction

		Evening Job Satisfaction	
		<i>Coefficient</i>	<i>SE</i>
<i>Fixed Effects</i>			
	Intercept (γ_{00})	3.75*	.10
	Morning Job Satisfaction (γ_{10})	.16*	.06
	BITS Day (γ_{20})	-.18*	.05
<i>Fixed Effects</i>			
BITS Day	Intercept (γ_{00})	3.75*	.10
	Trait Self-Esteem (γ_{01})	.06	.17
	Morning Job Satisfaction (γ_{10})	.16*	.06
	BITS Day (γ_{20})	-.19*	.06
	Trait SE*BITS Day (γ_{21})	-.05	.09

Note. N = 90; * $p < .05$. BITS Day = Illegitimate tasks across the day. Morning Job Satisfaction = Job satisfaction at the morning occasion. Trait SE = Trait self-esteem.

Table A33

Effects of BITS Experienced in the Afternoon (Reported at Evening) on Job Satisfaction the Following Morning

		Following Morning Job Satisfaction	
		<i>Fixed Effects</i>	<i>Coefficient</i> <i>SE</i>
		Intercept (γ_{00})	3.87* .10
		Morning Job Satisfaction (γ_{10})	.06 .07
		BITS Evening (γ_{20})	-.05 .05
BITS Evening	<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})	3.87*	.09
	Trait Self-Esteem (γ_{01})	.06	.16
	Morning Job Satisfaction (γ_{10})	.06	.07
	BITS Evening (γ_{20})	-.06	.05
	Trait SE*BITS Evening (γ_{21})	-.06	.07

Note. N = 90; * $p < .05$. BITS Evening = Illegitimate tasks measured at the evening occasion, reflecting afternoon experience. Morning Job Satisfaction = Job satisfaction at the morning occasion. Trait SE = Trait self-esteem.

Table A34

Effects of BITS Experienced Across the Workday on Job Satisfaction the Following Morning

		Following Morning Job Satisfaction	
		<i>Fixed Effects</i>	<i>Coefficient</i> <i>SE</i>
		Intercept (γ_{00})	3.87* .10
		Morning Job Satisfaction (γ_{10})	.04 .06
		BITS Day (γ_{20})	-.04 .05
BITS Day	<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
	Intercept (γ_{00})	3.87*	.10
	Trait Self-Esteem (γ_{01})	.11	.15
	Morning Job Satisfaction (γ_{10})	.03	.06
	BITS Day (γ_{20})	-.04	.05
	Trait SE*BITS Day (γ_{21})	.01	.06

Note. N = 90; * $p < .05$. BITS Day = Illegitimate tasks across the day. Morning Job Satisfaction = Job satisfaction at the morning occasion. Trait SE = Trait self-esteem.

Table A35

Effects of BITS Experienced Across the Workday on Job Satisfaction the Following Day

		Following Day Job Satisfaction	
		<i>Coefficient</i>	<i>SE</i>
<i>Fixed Effects</i>			
	Intercept (γ_{00})	3.81*	.09
	Morning Job Satisfaction (γ_{10})	.05	.05
	BITS Day (γ_{20})	.01	.04
<i>Fixed Effects</i>			
BITS Day	Intercept (γ_{00})	3.81*	.09
	Trait Self-Esteem (γ_{01})	.08	.16
	Morning Job Satisfaction (γ_{10})	.05	.05
	BITS Day (γ_{20})	.01	.04
	Trait SE*BITS Day (γ_{21})	.01	.05

Note. N = 90; * $p < .05$. BITS Day = Illegitimate tasks across the day. Morning Job Satisfaction = Job satisfaction at the morning occasion. Trait SE = Trait self-esteem.

Table A36

Effects of BITS on Sleep Quality Indicators

	Sleep Quality That Night			Feeling Rested The Next Morning			Minutes to Fall Asleep That Night		
	<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>	<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>	<i>Fixed Effects</i>	<i>Coefficient</i>	<i>SE</i>
BITS Mid-day	Intercept (γ_{00})	3.40*	.07	Intercept (γ_{00})	3.19*	.09	Intercept (γ_{00})	25.68*	2.17
	BITS Mid-day (γ_{20})	.00	.07	BITS Mid-day (γ_{20})	-.02	.07	BITS Mid-day (γ_{20})	-.24	2.57
BITS Evening	Intercept (γ_{00})	3.41*	.07	Intercept (γ_{00})	3.20*	.09	Intercept (γ_{00})	24.80*	2.12
	BITS Evening (γ_{20})	-.02	.07	BITS Evening (γ_{20})	-.10	.09	BITS Evening (γ_{20})	1.62	2.84
BITS Day	Intercept (γ_{00})	3.41*	.06	Intercept (γ_{00})	3.17*	.08	Intercept (γ_{00})	25.60*	2.15
	BITS Day (γ_{20})	-.02	.06	BITS Day (γ_{20})	.01	.07	BITS Day (γ_{20})	.14	2.81

Note. N = 90; * $p < .05$. BITS Mid-day = Illegitimate tasks measured at the mid-day occasion, reflecting morning experience. BITS Evening = Illegitimate tasks measured at the evening occasion, reflecting afternoon experience. BITS Day = Illegitimate tasks across the day.

Appendix B: Study Scales

Please indicate the following:

Gender (circle one): Male Female

Age _____

Please indicate your highest level of education:

1. Less than high school
2. High school diploma
3. Some college
4. Associates degree
5. Bachelors degree
6. Some graduate school
7. Masters degree
8. Doctoral level degree

Please indicate how long you have been working at your current job:

_____ Years _____ Months

Please indicate how many hours you work at your current job:

_____ Hours per week

What industry do you work in? _____:

1. professional industry (e.g. accounting, law)
2. Manufacturing industry (e.g. construction, assembly line)
3. Retail or Service industry (e.g. restaurant, server, cashier, salesperson)
4. technical industry (e.g. mechanics, computer programming)
5. government agency (e.g. Military, City Hall)
6. Education (e.g. teacher)
7. Other (please specify): _____
8. Healthcare (e.g. nurse, physical therapist)

What is your official job title? _____

Bern Illegitimate Tasks Scale (BITS)**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Do you have work tasks to take care of, which keep you wondering if...					
1. They have to be done at all?.....	1	2	3	4	5
2. They make sense at all?.....	1	2	3	4	5
3. They would not exist (or could be done with less effort), if things were organized differently?.....	1	2	3	4	5
4. They just exist because some people simply demand it this	1	2	3	4	5
Do you have work tasks to take care of, which you believe...					
5. Should be done by someone else?	1	2	3	4	5
6. Are going too far, and should not be expected from you?.....	1	2	3	4	5
7. Put you into an awkward position?.....	1	2	3	4	5
8. Are unfair for you to have to deal with?.....	1	2	3	4	5

** when used for daily dairies, instructions will be in reference to the past period of time at work that day (i.e. “Since the last diary, have you had work tasks to take care of, which keep you wondering if...”)

Self-Esteem (Trait and State Self-Esteem)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I feel that I'm a person of worth, at least on an equal plane with others.....	1	2	3	4	5
2. I feel that I have a number of good qualities	1	2	3	4	5
3. All in all, I am inclined to feel that I am a failure	1	2	3	4	5
4. I am able to do things as well as most other people	1	2	3	4	5
5. I feel I do not have much to be proud of	1	2	3	4	5
6. I take a positive attitude toward myself	1	2	3	4	5
7. On the whole, I am satisfied with myself	1	2	3	4	5
8. I wish I could have more respect for myself	1	2	3	4	5
9. I certainly feel useless at times	1	2	3	4	5
10. At times I think I am no good at all	1	2	3	4	5

Anger and Depression

At this moment, how do you feel at work?	Not at all	A little	Somewhat	A good deal	Very much
1. Angry.....	1	2	3	4	5
2. Aggravated.....	1	2	3	4	5
3. Irritated or annoyed.....	1	2	3	4	5
4. Depressed	1	2	3	4	5
5. Miserable.....	1	2	3	4	5
6. Gloomy.....	1	2	3	4	5

Fatigue

	Not at all	A little	Somewhat	Moderately	Extremely
1. At this moment, are you experiencing tiredness or fatigue?.....	1	2	3	4	5

Job Satisfaction

In the past week, how did you feel about your job?	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. In general, I like working at my organization.....	1	2	3	4	5
2. **All in all, I am satisfied with my job.....	1	2	3	4	5
3. In general, I don't like my organization.....	1	2	3	4	5

** Single-item included in daily dairies; stem modified to "At this moment..."

Sleep Quality

1. How long did it take you fall asleep once in bed?.....	Minutes _____				
	Not at all	A little	Somewhat	Moderately	Extremely
2. Did you feel rested upon wakening?	1	2	3	4	5
	Very Poor	Poor	Average	Good	Very Good
3. How was your overall sleep quality last night.....	1	2	3	4	5