Understanding Role Stressors and Job Satisfaction Over Time Using Adaptation Theory

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In this study, we seek to highlight a potentially fundamental shift in how dynamic stressor-strain relationships should be conceptualized over time. Specifically, we provide an integrated empirical test of adaptation and role theory within a longitudinal framework. Data were collected at 3 time points, with a 6-week lag between time points, from 534 respondents. Using latent change modeling, results supported within-person adaptation to changes in job satisfaction and role conflict. Specifically, over the 12-week course of the study, changes in role clarity tended to be maintained, whereas changes in job satisfaction and role conflict tended to be fleeting and reverse themselves. Theoretical implications and future directions are discussed.

Keywords: adaptation theory, job satisfaction, longitudinal, role clarity, role conflict

It has long been recognized (e.g., Zapf, Dormann, & Frese, 1996), and consistently reinforced (Kelloway & Francis, 2013), that the stressor-strain process should be examined using longitudinal designs, a trend scholars are beginning to more consistently embrace (e.g., Spector, Chen, & O'Connell, 2000). This need for longitudinal data and modeling is a reflection of the conceptualization that stressors and strains are dynamically related with one another over time (Hobfoll, 2011). Indeed, it has been argued that relationships observed concurrently (i.e., in cross-sectional designs) do not always function similarly within a longitudinal framework (Ployhart & Vandenberg, 2010). This is because stressors are conceptualized as being multifaceted, with varying incubation periods before they manifest into strains (i.e., influence indicators of well-being). The implication is that arguments made based on cross-sectional data may not translate to, or represent, the dynamic relationship that exists between stressors and strains over time. To this end, organizational scholars seeking to understand longitudinal processes, including lagged relationships between stressors and strains, continue to strive toward a common understanding of how to properly analyze longitudinal data (Kelloway & Francis, 2013).

Of the longitudinal research examining work-related stressor-strain relationships, a significant portion has considered the effects of physical stressors such as manufacturing work (Van Drongelen,

Boot, Merkus, Smid, & Van Der Beek, 2011). The enduring, longitudinal effects of psychological stressors, such as role conflict, however, remain relatively untold (Ford et al., 2014). To inform workplace interventions and refine stressor-strain theories, more research is needed to understand the extent to which time influences stressor-strain relationships. To this end, Matthews, Wayne, and Ford (2014) have recently suggested that adaptation theory holds particular promise in conceptualizing how dynamic psychological workplace stressor-stain relationships unfold over time (Zapf et al., 1996). Within adaptation theory, the premise is that people are able to adjust to both positive and negative stimuli, with an eventual return to baseline, or "resting" level of a particular emotion or cognition (Diener, Lucas, & Scollon, 2006). For example, exposure to a negative stressor, like role conflict, should result in an immediate reduction in well-being. However, as people adjust to this stressor over time, they are able to return to preexisting levels of well-being. The opposite pattern is theorized to exist for positive events (Diener et al., 2006).

The fundamental premise of adaptation models runs in stark contrast to many of the theoretical models that have previously been applied to the workplace stressor-strain processes (e.g., allostatic load theory, McEwen, 1998; conservation of resources theory, Hobfoll, 1989). These theoretical models suggest that for persistent stressors, strains do not diminish, but rather, accumulate over time. Yet, consistent with adaptation theory, in a cross-lagged panel design, Matthews et al. (2014) demonstrated that after controlling for the concurrent, negative relationship between work–family conflict and subjective well-being, the lagged (stressor-strain) relationship between work–family conflict and subjective well-being was, in fact, *positive*. The authors do not argue that work–family conflict results in more subjective well-being over time, but rather, that this positive cross-lagged effect is indicative of people adapting to experiences of work–family conflict and

returning to more positive levels of subjective well-being over time.

Matthews et al. (2014) provide preliminary evidence for the utility of applying adaptation theory to issues within the organizational context. However, for scholars and practitioners to really begin to understand the applicability of adaptation theory, additional research is necessary. Further, Matthews et al. only tested one side of adaptation theory—that people adapt to negative experiences. Equally important is the notion that people adapt to positive events and situations. Even within the larger adaptation literature, only a limited amount of research has been conducted in an effort to understand positive adaptation (Boswell, Boudreau, & Tichy, 2005; Clark & Georgellis, 2013; Lyubomirsky, 2011).

In the present study, we formally test adaptation theory in terms of both negative and positive workplace stimuli within a latent-change score modeling framework. Specifically, we examine the relationship between two common job stimuli (i.e., role clarity and role conflict) and job satisfaction across three waves of data collection. We use a latent change model that simultaneously estimates the direct influence of the stimulus *and* previous levels of job satisfaction on *changes* in job satisfaction. Results from our study have the potential to make three important contributions to the literature. First, in using a true longitudinal design and latent change framework, we test an alternative theoretical framework (adaptation theory) that may more accurately reflect people's response to role stressors as compared with more traditional frameworks (e.g., conservation of resources theory). Second, we test not only the possibility for workers to adapt to negative workplace experiences but also to *positive* experiences. Given many workplace interventions focus on increasing positive employee experiences, we must understand the extent to which employees may ultimately habituate to these efforts. Finally, by understanding how workers may adapt to positive and negative stimuli, we can lay the foundation for a new research paradigm aimed at helping practitioners minimize adaptation time for negative events and maximize adaptation time for positive events. Ultimately, the results of the present study have the potential to fundamentally shift how scholars conceptualize the dynamic relationships among work role stressors and worker attitudes and well-being.

Theoretical Background

In the following sections, we first detail previous research on role theory, particularly the constructs of interest, role clarity and role conflict. We then discuss the interplay between these role stressors and their relationship with job satisfaction. Finally, we merge the concept of role clarity and role conflict as job stressors, along with job satisfaction as a resource, within the tenets of adaptation theory.

Role Theory

Role theory (Merton, 1957; Parsons, 1951) was initially applied to the work context by Kahn, Wolfe, Quinn, Snoek, and Rosenthal (1964). Roles, in general, refer to the expectations regarding behaviors and attitudes that are conveyed by role senders, such as supervisors, and are referred to as role sets (Jex, Beehr, & Roberts, 1991). When roles are unclearly disseminated and unpredictable, role theorists predict that employees will experience stress and dissatisfaction, as well as performance decrements (Rizzo, House, & Lirtzman, 1970).

Role stressors have been classified as one of the five types of chronic work-related stressors (i.e., role, physical, task-related, social, and schedule stressors; Sonnentag & Frese, 2003). Three main types of role stressors have been identified: *role overload, role conflict,* and *role clarity* (*role ambiguity* has been used synonymously in the literature to refer to the absence of role clarity; Rizzo et al., 1970). In the present study, we intentionally focus on role clarity and role conflict. These two role constructs were selected on the basis of past research wherein it has been shown that role conflict and the absence of role clarity consistently predict a variety of well-being outcomes, as well as workplace behaviors such as bullying and counterproductive work behavior (Nixon, Mazzola, Bauer, Krueger, & Spector, 2011; Spector et al., 2000). Further, role clarity and role conflict have been shown to have strong relationships with job attitudes (compared with role overload; Jackson & Schuler, 1985; Örtqvist & Wincent, 2006).

The perceived certainty or predictability of job and role tasks, and the quality of objective information provided by role senders and the environment both contribute to *role clarity* (Beehr, 1976; Rizzo et al., 1970). In other words, role clarity refers to having a firm understanding of what behavior is expected on the job with regard to tasks and social interactions. Common factors thought to reduce role clarity include changes in technology, influxes of new employees, organizational hierarchy shifts, and jobs that span multiple domains (McGrath, 1976). *Role conflict* occurs when employees are faced with conflicting demands or tasks (Beehr, 1995). Several dimensions of role conflict have been specified (Kahn et al., 1964): interrole, person-role, intrasender, and intersender. Interrole conflict refers to incompatible demands between two separate role sets that a person has, whereas person–role conflict occurs when a person feels his or her values or beliefs conflict with the requirements of the role. Intrasender conflict occurs when a role sender has conflicting expectations of an employee, whereas intersender conflict occurs when two or more people give conflicting demands of the same role set to an employee.

Role clarity and conflict are thought to be dominant factors in shaping employee perceptions of the work environment, acting as ambient stressors that influence factors such as employee coping, social norms, and physical symptoms (Bowling & Beehr, 2006; Spector & Fox, 2005). This influence of role stressors on employee strain has been classified as an affective state that includes anxiety, depression, and depletion in self-confidence or dysfunction in social situations (Lee & Ashforth, 1996). For example, Idris, O'Driscoll, and Anderson (2011) found role stressors were significant predictors of withdrawal behaviors (i.e., cynicism, reduced professional efficacy, diminished organizational commitment) six months later. Interestingly, despite their significance to the work environment, few studies have considered the dynamic interplay between these variables over time (e.g., Nixon et al., 2011; Vandenberghe, Panaccio, Bentein, Mignonac, & Roussel, 2011). As Kelloway and Francis (2013) note, rather paradoxically, even for the most well-studied stressors (e.g., role conflict and clarity), we know very little about their basic unfolding across time.

Role Theory and Job Satisfaction

In the current study, we focus on the relationship between role clarity, role conflict, and job satisfaction over time. Job satisfaction, as a component of well-being, is an ideal construct for the measurement of adaptation within the context of this study (Matthews et al., 2014), as it has been shown to fluctuate over time within people (Judge & Kammeyer-Mueller, 2012). Further, because role clarity and role conflict are contextualized to the job, job satisfaction is a congruent contextual variable. Finally, job satisfaction in itself is an important construct to assess because of its association with several key criteria such as retention, personal well-being, life satisfaction, happiness, positive affect, the absence of negative affect (Bowling, Eschleman, & Wang, 2010), and various cross-cultural studies indicate that work is second only to family in terms of importance in life (Harpaz & Fu, 1997; MOW [Meaning of Working] International Research Team, 1987).

The current organizational research shows strong evidence for cross-sectional relationships between role stressors and job satisfaction. For example, Podsakoff, Lepine, and Lepine (2007) showed that role stressors that include work demands and time pressure explain 37% of the variance in job satisfaction, while Eatough, Chang, Miloslavic, and Johnson (2011) demonstrated in their meta-analysis that role stressors, including role ambiguity and role conflict, negatively predict job satisfaction. Thus, replicating past research, we expect that both role conflict and role clarity will be concurrently related to job satisfaction.

Embedding role theory within adaptation theory. Adaptation theorists state that, although people experience positive and negative events that can increase or decrease their immediate well-being, people generally return to a preevent, or baseline level of well-being at some point following the event (Brickman & Campbell, 1971). It has been suggested that the majority of people have a well-being "set-point" above the "neutral" point, and thus generally report positive levels of well-being (Diener & Diener, 1996). Referred to as hedonic adaptation, the phenomenon is defined as "the psychological process by which people become accustomed to a positive or negative stimulus, such that the emotional effects of that stimulus are attenuated over time" (Lyubomirsky, 2011, p. 201). Researchers believe that adaptation is essential for ideal functioning and survival, as the automatic habituation to chronic stimuli allows the brain to focus on new, potentially threatening stimuli (Helson, 1971). Thus, adaptation allows humans to attend to new and important information and changes in their environment.

Empirical work has supported adaptation to major life events, such as marriage, the birth of a new child, unemployment, and the development of a disability (e.g., Boswell et al., 2005; Clark & Georgellis, 2013; Lucas, Clark, Georgellis, & Diener, 2003, 2004; Lucas, 2007; Uglanova & Staudinger, 2013). People are thought to completely adapt, that is, to fully return to preevent levels of well-being, after marriage, whereas incomplete adaptation has been shown to occur after unemployment and the development of a disability (Lucas et al., 2003; Lucas et al., 2004; Lucas, 2007). It should also be noted that there are many nuances within adaptation theory; variations in baselines, speed, and length of adaptation may exist across people (Diener et al., 2006; Matthews et al., 2014). Baselines or set-points within individuals may even change over the life span. Some instances of change in happiness or life satisfaction may be sustainable (Diener et al., 2006). Importantly, scholars have shown that the temporal resolution of the study (i.e., the lag between assessments) affects the interpretation of the adaptation process. Specifically, Uglanova and Staudinger (2013) found that although most studies of subjective well-being employed a yearly lag, using a shorter lag between assessments provided a more refined, and potentially more accurate, understanding of habituation patterns, especially for negative events.

With the exception of Matthews et al. (2014), no known study has employed an adaptation theory framework to test employees' ability to adapt to workplace stressors. Thus, our study is noteworthy in its examination of chronic workplace stressors. As noted earlier, the evidence for negative outcomes on employee well-being as a result of role clarity and role conflict has been primarily cross-sectional in nature (e.g., Barber & Iwai, 1996; Lang, Thomas, Bliese, & Adler, 2007; Lu, While, & Barriball, 2007; Revicki, Gallery, Whitley, & Allison, 1993). With the move toward more longitudinal studies to better capture dynamic relationships (Hobfoll, 2011), adaptation theory is ripe for consideration in this context.

Several relevant studies have employed overtime designs to examine issues related to role clarity and conflict (e.g., Balducci, Cecchin, & Fraccaroli, 2012; Idris et al., 2011; Hartenian, Hadaway, & Badovick, 2011), yet these studies generally applied a *stressor Time 1–strain Time 2* design (Zapf et al., 1996), which precludes the testing of hypotheses grounded in adaptation theory (Matthews et al., 2014). Also, two-wave studies offer limited insight into changing relationships and may confound true systematic change with measurement error (Kelloway & Francis, 2013; Ployhart & Vandenberg, 2010; Singer & Willett, 2003). At least three collection points have been advocated for true longitudinal research (Ployhart & Vandenberg, 2010).

With these issues in mind, it should be expected that when an employee is experiencing negative stimuli, like role conflict, a concurrent decrease in his or her job satisfaction should be observed. However, consistent with adaptation theory, employees should adapt to the role conflict and return to a more positive level of job satisfaction over time. That is, role conflict should be negatively related to job satisfaction concurrently, but over time, changes in role job satisfaction should revert to previous levels.

In terms of positive stimuli, adaptation theorists would predict that although role clarity would initially (i.e., concurrently) be positively related to job satisfaction, employees would habituate and return to lower levels of job satisfaction over time. That is, role clarity should be positively related to job satisfaction concurrently, but over time, changes in job satisfaction should revert to previous levels.

Using a latent change framework to test adaptation theory. Adding to the strength of a true longitudinal examination of role clarity and role conflict, we employ a latent-change score model (LCM) to more effectively examine the adaptation processes in play. LCMs represent an improvement over latent growth curve models and structural equation cross-lagged models (McArdle, 2009). Latent change modeling allows us to analyze dynamic within-person relationships among constructs (e.g., role clarity and job satisfaction, role conflict and job satisfaction) in a manner that subsumes the previous aforementioned approaches (Ferrer & McArdle, 2010). With latent change models, researchers estimate a *change constant*—the estimated change in a construct across the

entire study period as estimated when the initial level of the construct equals zero, as well as *proportional change*—the amount of change in a construct relative to the true-score level at the previous adjacent time point (Grimm, An, McArdle, Zonderman, & Resnick, 2012).

Together, constant and proportional change indicate whether changes in the construct are accelerating or decelerating over time. A positive constant change with a positive proportional change would suggest a positive change that is accelerating whereas a positive constant change with a negative proportional change would suggest a positive change that is decelerating. A negative constant change with a negative proportional change would represent a negative change that is accelerating, whereas a negative constant change with a positive proportional change would represent a negative change that is decelerating. Additionally, within an LCM framework, we can estimate how a second variable level correlates with the intercept and changes in the focal variable. The extent to which the second variable predicts change in the focal variable represents a *level-to-change parameter*.

With regard to the constructs in the current study, we are interested in three phenomena. First, we are interested in the extent to which changes in job satisfaction are influenced by previous levels of job satisfaction (*a proportional change parameter*). If the situation remains constant, adaptation theorists would suggest that high levels of job satisfaction are followed by decreases in job satisfaction, whereas low levels of job satisfaction are followed by increases in satisfaction. For reasons described earlier, we expect that levels of job satisfaction at a particular time are negatively associated with changes in job satisfaction from that time forward.

> *Hypothesis 1:* Levels of job satisfaction are negatively associated with changes in job satisfaction (proportional change).

The second phenomenon of interest here is the level-to-change parameter. Specifically, we are interested in the extent to which a person's job satisfaction may change or adapt in response to the level of role clarity and role conflict experienced. Although we expect job satisfaction to regress back to baseline cognitive or hedonic neutrality, this recovery may be hindered by any lagged effects of negative work role conditions. Workers experiencing high levels of role conflict will tend to have lower job satisfaction and workers with high role clarity will tend to have higher job satisfaction. Adaptation theorists would suggest that in both cases, these people will adapt to these experiences over time. However, theory on stress responses would suggest that there is some temporally lagged effect such that role stressors cause decreases in job satisfaction that manifest at a later point in time (Garst, Frese, & Molenaar, 2000).

Past attempts to assess such effects have used cross-lagged panel analysis, which does not allow for a direct assessment of change as an outcome. Here, we examine whether people do indeed recover and adapt even when role stimuli are strong. To test these adaptation processes, we will examine the proportional change effect while also accounting for prior levels of role stressors. The effects of role stressors on changes in job satisfaction are assessed via the *level-to-change parameter*. As such, we will get a direct assessment of the relative influence of adaptation effects and lagged effects. The adaptation effects will be assessed with the proportional change parameter and the lagged effects will be

assessed with the level-to-change parameters. Based on adaptation theory and past research on stress responses, we offer a set of predictions regarding these parameters.

> *Hypothesis 2a:* Levels of role clarity are positively associated with subsequent changes in job satisfaction.

> *Hypothesis 2b:* Levels of role conflict are negatively associated with subsequent changes in job satisfaction.

> *Hypothesis 3:* Levels of job satisfaction are negatively associated with subsequent changes in job satisfaction (proportional change), even after accounting for the lagged level-to-change effects of role clarity and role conflict.

Job satisfaction as a resource. The design of our study also allows for the testing of a core tenet (Corollary 1) of conservation of resources theory (Hobfoll, 2001). Inherent within conservation of resources theory is the argument that "those with greater resources are less vulnerable to resource loss and more capable of orchestrating resource gain" (Hobfoll, 2011, p. 129) and that resource gain and loss is best observed through time (i.e., longitudinally) because resource loss or gain spirals do not occur statically. In defining job satisfaction as a positive affective state, and thus, an affective resource (Locke, 1969; see also, broaden and build theory, Fredrickson, 2001) we suggest that current job satisfaction will influence one's future experiences of workplace stressors. Consistent with conservation of resources theory, having greater at work well-being (i.e., job satisfaction) may facilitate an employee engaging in strategies to resolve role conflict over time. That is, feeling satisfied with one's job may help an employee more effectively manage conflict between role sets, or be less likely to perceive conflict in the first place (i.e., prevent against resource loss as a function of role conflict). Further, the accumulation of a resource, such as job satisfaction, may enhance one's ability to seek and perceive role clarity, such that subsequent assessments of role clarity will be higher after experiencing high levels of job satisfaction (i.e., promote resource gain).

A recent chapter by Hobfoll (2011) provides an interesting discussion that further highlights this argument. Hobfoll (2011, p. 133) notes that when things are going well for people and they have ample resources, they simply "bet with the odds" that their futures will be bright. People who are consistently satisfied with their jobs should be more likely to feel there is certainty around their role sets and be better equipped to manage conflict between role sets when it arises.

> *Hypothesis 4a:* Levels of job satisfaction are positively related to subsequent changes in role clarity.

> *Hypothesis 4b:* Levels of job satisfaction are negatively related to subsequent changes in role conflict.

Reciprocal lagged relationship between role stressors. Finally, extending Hypothesis 2 and the notion of resource spirals, we propose that a negative lagged reciprocal feedback loop exists between role conflict and role clarity. For example, meta-analytic evidence indicates that role conflict and role clarity tend to be negatively related, concurrently (Eatough et al., 2011; Fisher & Gitelson, 1983). Additionally, role clarity has been shown to negatively predict role conflict when assessed a year later (Harte-

nian et al., 2011). It follows within conservation of resources theory that losses beget future losses, and the attainment of resources protects against future losses (Corollary 1; Hobfoll, 2011). Therefore, initial experiences of role conflict are likely to result in a loss of resources (i.e., role clarity), whereas experiences of role clarity should protect an individual from resource loss (i.e., experiences of role conflict) over time. Interestingly, we are not aware of any longitudinal empirical study that has examined the dynamic relationship between role clarity and role conflict.

Hypothesis 5a: Levels of role clarity are negatively related to changes in role conflict.

Hypothesis 5b: Levels of role conflict are negatively related to changes in role clarity.

Method

Participants and Procedure

A heterogeneous sample of participants was recruited using Amazon.com's Mechanical Turk as part of a larger research study (Matthews & Toumbeva, 2015). As part of the larger study, respondents had to be organizationally employed with a direct supervisor. To ensure data quality only U.S. participants with a 96% approval rate (i.e., 96% of their prior tasks had been approved) and who had previously completed at least 500 tasks were allowed to participate. Five validation questions were embedded to ensure effortful responding (e.g., "Leave this question blank"). Respondents who failed to correctly complete at least four of the five questions were excluded.

Data were collected at three time points. Past research on adaptation theory has used relatively short lags of 1, 3, and 6 months (e.g., Matthews et al., 2014; Uglanova & Staudinger, 2013) with stronger effects demonstrated at shorter lags. However, to date, the manifestation of role conflict and role clarity over time is not clearly described in the literature. Thus, we selected a 6-week lag between assessments based on both this research and our constructs of interest as a middle ground approach. Respondents who completed the Time 1 survey were paid $1.25 and respondents who completed the Time 2 and Time 3 surveys were paid an additional $1.00 for each survey. Reminder e-mails were sent one week after the initial invitation for each time point.

The Time 1 survey had 936 respondents; of these, only 841 were asked to complete Time 2 and Time 3 surveys (95 were removed for careless responding or because they did not meet inclusion criteria). For the Time 2 and Time 3 surveys, there were 586 and 543 participants, respectively (response rates were 69.7% and 64.6%), however an additional 26 respondents were excluded for careless responding and 53 were excluded because they were no longer in the same job since the previous survey. To be retained for analysis respondents had to participate in at least two of the three waves of data collection. This resulted in a final analysis sample of 534 respondents. Missing data were estimated using maximum likelihood estimate within AMOS (Arbuckle, 2012).

The sample was 43.4% female and 49.0% were married or living with a partner. The sample was primarily Caucasian (82.0%) with an average age of 34.97 years ($SD = 7.43$), and organizational tenure of 5.73 years ($SD = 4.93$). On average, respondents worked 39.80 hours a week ($SD = 7.43$), and 70.2% worked a day shift. Approximately 27.9% reported working in professional and related occupations, 18.4% worked in office and administrative occupations, 12.5% worked in management, business, and financial operations, 15.2% worked in sales, and 25.3% worked in service, production, construction, and other related occupations.

Measures

All measures were assessed on a 5-point agree–disagree Likert scale. Participants were asked, as part of the question prompt, to consider the past month when responding. Internal reliabilities for all measures, at all three time points, are reported in Table 1.

Role clarity was assessed using a 3-item measure (Pejtersen, Kristensen, Borg, & Bjorner, 2010). A sample item is, "My work has clear objectives."

Role conflict was assessed using a 3-item measure (Pejtersen et al., 2010). A sample item is, "I often get involved in situations in which there are conflicting requirements."

Job satisfaction was measured using three items from Cammann, Fichman, Jenkins, and Klesh (1983). A sample item is "All in all, I am satisfied with my job."

Table 1
Descriptive Statistics

Variable	Mean	SD	α	1	2	3	4	5	6	7	8
Time 1											
1. Role clarity	4.01	.80	.89								
2. Role conflict	2.78	.93	.74	−.45							
3. Job satisfaction	3.57	1.10	.93	.53	−.39	.93					
Time 2											
4. Role clarity	3.97	.78	.86	.68	−.42	.44					
5. Role conflict	2.80	.93	.78	−.37	.57	−.32	−.48				
6. Job satisfaction	3.58	1.10	.93	.45	−.34	.81	.51	−.42			
Time 3											
7. Role clarity	3.97	.81	.89	.66	−.40	.42	.73	−.43	.41		
8. Role conflict	2.84	.96	.83	−.38	.63	−.33	−.48	.73	−.41	−.45	
9. Job satisfaction	3.58	1.11	.93	.46	−.35	.79	.47	−.36	.88	.51	−.43

Note. $N = 534$. All correlations significant at $p < .01$.

Results

Preliminary Results

Means, standard deviations, reliabilities, and correlations are reported in Table 1.

Attrition is expected in longitudinal research. Thus, we conducted a series of t tests to determine if there were any systematic differences due to attrition between the two samples: the analysis sample ($n = 534$) and participants who responded to only the first survey ($n = 204$). There were no differences between samples on the core constructs (role clarity, role conflict, or job satisfaction). However, the participants included in the analysis were older on average ($M = 33.97$, $SD = 9.94$), worked more hours ($M = 39.80$, $SD = 7.43$), and had longer organizational tenure ($M = 4.7$, $SD = 5.73$) compared with respondents who only completed the first survey [Age $M = 29.54$, $SD = 8.99$; $t(732) = -5.55$, $p < .01$; hours per week M $= 37.87$, $SD = 11.93$; $t(735) = -2.63$, $p < .05$; organizational tenure $M = 4.12$, $SD = 4.19$; $t(726) = -4.09$, $p < .01$]. Taken together, no strong evidence exists of systematic biases due to attrition.

Longitudinal Construct Validity

As reported in Table 2, the focal study measures were tested for configural and metric invariance (Ployhart & Vandenberg, 2010). Configural invariance indicates that a construct loads similarly on the same latent construct across measurement occasions, and metric invariance indicates that scale items function similarly across measurements (Vandenberg & Lance, 2000). To test for invariance in our scales, baseline confirmatory factor analyses (CFA) were conducted for each construct separately, with each scale loading on its respective survey (Time 1, Time 2, and Time 3). Within a construct, the same item was set free to correlate with itself across the three time points. These three latent factors were then loaded onto an overarching construct.

To test for configural invariance, the pattern of loadings for the latent factors were constrained to be equal to ensure they related to the same focal construct. The fit of this model was then compared with the baseline CFA for each construct. Upon achieving config-

ural invariance (all three demonstrated configural invariance), the three were tested for metric invariance. In this model, the items' loadings were constrained across latent factors. Upon comparing this model fit to the baseline CFA, each construct was found to exhibit metric invariance (see Table 2). Thus, each construct and its items loaded similarly at each time point. In addition, the factor loadings for each item across the study as well as the item error are reported in Table 3.

Conceptual Model Testing

To investigate the within-person dynamics among work role stressors and job satisfaction, we employed LCM (e.g., McArdle, 2009). Both the latent growth and random coefficients modeling approaches were also considered before choosing LCM. We believe that adaptation is a process that is best studied by investigating how levels of a particular variable predict changes in that variable at each time point. These nonlinear change patterns are most directly tested with latent change analysis. In addition, the latent change analysis is able to incorporate the elements of latent growth modeling because of the inclusion of a linear growth parameter and a T1 intercept. Thus, in a way, our approach accomplishes what latent growth modeling would accomplish while simultaneously estimating more fine-grained changes. Another alternative to assessing longitudinal effects, random coefficient modeling would only allow us to look at correlations among concurrent synchronous changes, not adaptation over time, and thus would not be the best approach.

LCM involves the use of structural equation modeling to create latent variables that represent change between two time points. In LCM, the score at each time point after the first is set to equal the sum of the immediately previous score on the same variable and an unobserved (i.e., latent) change score. In a univariate latent change score model, latent change scores are specified for a single variable over time, whereas in a bivariate latent change score model, latent change scores are specified for two different variables. Additionally, a latent slope constant is specified as having a constant influence on the change score across time, and a latent intercept score is specified as the score at the first time point in the study (see Table 4 and Figures 2 through 4 for the results from the latent

Table 2
Configural and Metric Invariance Testing for Focal Constructs

Variable	χ^2	df	CFI	RMSEA	$\Delta\chi^2$	Δdf
Role clarity						
Baseline CFA	26.12*	15	.996	.037	—	—
Configural invariance CFA	26.79*	16	.997	.036	.67	1
Metric invariance CFA	34.82*	19	.995	.040	8.7	4
Role conflict						
Baseline CFA	27.52*	15	.994	.040	—	—
Configural invariance CFA	28.74*	16	.994	.039	1.22	1
Metric invariance CFA	28.30*	19	.995	.030	.78	4
Job satisfaction						
Baseline CFA	12.79	15	1.00	.00	—	—
Configural invariance CFA	12.95	16	1.00	.00	.16	1
Metric invariance CFA	13.70	19	1.00	.00	.91	4

Note. The χ^2 difference tests for the configural invariance are compared against the baseline CFA. The χ^2 difference tests for the metric invariance CFA is compared against the configural invariance CFA.
* $p < .05$.

Table 3

Standardized Factor Loadings for All Latent Constructs as Well as Item Correlated Errors Across Time Points

Items	Standardized factor loadings		
	Time 1	Time 2	Time 3
Role clarity 1	.79	.77	.82
Role clarity 2	.87	.86	.89
Role clarity 3	.91	.86	.87
Role conflict 1	.76	.77	.81
Role conflict 2	.80	.82	.86
Role conflict 3	.60	.61	.66
Job satisfaction 1	.93	.95	.94
Job satisfaction 2	.90	.90	.90
Job satisfaction 3	.86	.87	.87

Items	Standardized correlated item errors		
	Time 1 to Time 2	Time 1 to Time 3	Time 2 to Time 3
Role clarity 1	.10	.21**	.19**
Role clarity 2	.17**	.18**	−.10
Role clarity 3	−.08	.17*	.14*
Role conflict 1	.10	.20**	.14
Role conflict 2	.17*	.12	.18*
Role conflict 3	.25**	.18**	.37**
Job satisfaction 1	.09	.01	.21**
Job satisfaction 2	.31**	.21**	.25**
Job satisfaction 3	.25**	.29**	.40**

* $p < .05$. ** $p < .01$.

change score models specified in these analyses). To test our five hypotheses, we first examined a univariate model only looking at job satisfaction over the three time points. We then examined bivariate models pairing job satisfaction with role clarity and with role conflict. We also examined a model pairing latent change scores for role clarity and role conflict to examine interrelations among these variables.

In each model and for each construct,[1] we freed the proportional change parameters linking each score to the subsequent latent change score (e.g., T_1 job satisfaction and T_1–T_2 change in job satisfaction). When evaluating proportional change parameters, it should be noted that negative values indicate that larger scores tend to be followed by decreases, whereas positive values indicate that larger scores tend to be followed by increases. Because lags were held constant, these proportional change parameters were set to be equal across time for each variable given that there was no reason to expect any systematic differences across the two lags (T_1–T_2 and T_2–T_3). We also examined the effect of each variable on change in the other variable.

Before testing the latent-change models, we examined the intraclass correlation (ICCs) for each variable. The purpose of looking at the ICC(1) values is to verify that there is a significant proportion of within-person variance in these factors. The ICC(1)s were .57, .70, and .63 for job satisfaction, role clarity, and role conflict, respectively. The ICC(1) values represent the proportion of the variance in each variable that is accounted for by the cluster, which in this case is the person. The remaining variance is within-person. Thus, approximately 43, 30, and 37% of the variance in the three variables was within-person variance, suggesting that, al-

though there was some stability, each variable varied substantially across time.

Univariate Changes in Job Satisfaction

All latent change score models were tested using the *RAMpath* package for *R*, developed by Zhang, McCardle, Hamagami, and Grimm (2015). For the first latent change score model, we examined changes in job satisfaction across time. Results for this model, called the *univariate* model, are shown in Table 4. The fit for this model was good, $\chi^2(2) = .325$, ns; CFI = 1.00, RMSEA = .00, SRMR = .002. The overall mean of 3.57 indicates the mean score on job satisfaction. The change constant of 2.57 represents the expected change when job satisfaction equals zero; there is no zero point for job satisfaction so this is not conceptually meaningful by itself. Instead, it serves as a baseline to estimate expected change over time. The proportional change parameter of −.72 ($p < .05$) suggests that the expected change in job satisfaction decreases as job satisfaction increases; Hypothesis 1 was supported. Together, the positive constant change and negative proportional change parameters signal, *absent disruptions to the system*, decelerating rates of change over time until the person recovers to baseline levels. To illustrate the estimated adaptation effects, we display the predicted patterns of change over time in job satisfaction in Figure 1. The trend lines in Figure 1 are not to suggest that all people display this pattern of change toward the mean. Rather, these lines illustrate that, absent changes to the system, individuals on average will tend to regress toward the mean.

Bivariate Change Model of Role Clarity and Job Satisfaction

For the first *bivariate* latent change model, we included role clarity and job satisfaction (see Figure 2). This model showed good fit to the data, $\chi^2(7) = 23.32$; CFI = .99, RMSEA = .076, SRMR = .014. With regard to the first level-to-change parameter, there was no significant effect of the previous level of role clarity on changes in job satisfaction ($\beta = 2.63$, $p = .063$). Thus, Hypothesis 2a was not supported. With regard to the second level-to-change parameter, there was no effect of level of job satisfaction on future changes in role clarity, $\beta = -.77$, ns; Hypothesis 4a was not supported.

In contrast to the univariate model, the proportional change parameter for job satisfaction was actually stronger, $\beta = -1.71$, $p < .01$. This means that after accounting for the lagged effect of role clarity, levels of job satisfaction were negatively associated with changes in job satisfaction; Hypothesis 3 was supported. The proportional change effect for role clarity was nonsignificant, $\beta = 1.50$, *ns*, meaning previous levels of role clarity were unrelated to subsequent changes in role clarity. As expected, the intercepts for role clarity and job satisfaction, which reflect the values for each at Time 1, positively covaried, $\varphi = .40$, $p < .01$.

To summarize, these results suggest that high job satisfaction levels, which are associated with higher levels of role clarity, tend

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[1] Although we did not offer hypotheses for each proportional change parameter (i.e., role conflict and role clarity), their calculation and interpretation can be seen as a standard descriptive statistic in latent change score modeling.

Table 4
Results From Latent Change Score Models

Item	Univariate model for job satisfaction	Bivariate model with role clarity and job satisfaction	Bivariate model with role conflict and job satisfaction	Bivariate model with role clarity and conflict
Job satisfaction				
Intercept (T1)	3.57* (.05)	3.57* (.06)	3.58* (.06)	
Change constant	2.57* (.43)	−4.48 (4.11)	1.13 (1.13)	
Proportional change	−.72* (.12)	−1.71* (.53)	−.52* (.19)	
Level-to-change parameter		2.63^ (1.42)	.27 (.19)	
Role clarity				
Intercept (T1)		4.03* (.03)		4.05* (.04)
Change constant		−3.27 (4.60)		−3.24 (5.42)
Proportional change		1.50 (1.63)		.36 (.96)
Level-to-change parameter		−.77 (.64)		.63 (.58)
Role conflict				
Intercept (T1)			2.76* (.05)	2.75* (.05)
Change constant			4.32* (1.02)	4.34 (2.99)
Proportional change			−1.18* (.17)	−1.13* (.31)
Level-to-change parameter			−.28 (.17)	−.28 (.54)

^ $p = .063$. * $p < .05$.

to be followed by decreases in job satisfaction. Low job satisfaction levels, which are associated with lower levels of role clarity, tend to be followed by increases in job satisfaction, showing evidence of adaptation. Role clarity displayed a nonsignificant effect on subsequent changes in job satisfaction and no such reverse effect was found.

Bivariate Change Model of Role Conflict and Job Satisfaction

The results for the bivariate latent change score model for role conflict and job satisfaction are shown in Figure 3. This model also had good fit, $\chi^2(7) = 11.04$, ns; CFI = 1.00, RMSEA = .038, SRMR = .014. As in the role clarity-job satisfaction model, there was a negative proportional change effect for job satisfaction, $\beta = -.52$, $p < .01$. This means that after accounting for the lagged effect of role conflict, levels of job satisfaction were negatively associated with changes in job satisfaction; Hypothesis 3 was supported. There was also a proportional change effect for role conflict, $\beta = -1.18$, $p < .01$, suggesting that high and low role conflict levels tend to be followed by decreases and increases, respectively. However, levels of role conflict did not predict changes in job satisfaction over the subsequent 6 weeks, $\beta = .27$, ns; thus, Hypothesis 2b was not supported. The level of job

Figure 1. Expected trends in job satisfaction over time based on univariate latent change score model.

satisfaction did not predict changes in role conflict, $\beta = -.28$, ns; thus, Hypothesis 4b was not supported.

As expected, the baseline intercepts for role conflict and job satisfaction were correlated, $\varphi = -.42$, $p < .01$. The role conflict intercept was also negatively related to the job satisfaction slope constant, $\varphi = -.35$, $p < .01$, suggesting that high levels of role conflict predict an overall decrease in job satisfaction over time, which was somewhat mitigated by the proportional change effect discussed above. The slopes for role conflict and job satisfaction were also negatively related, $\varphi = -.28$, $p < .05$, indicating that overall increases in role conflict were associated with decreases in job satisfaction.

Bivariate Change Model for Role Clarity and Role Conflict

Finally, we analyzed a bivariate latent change score model for role clarity and role conflict (see Figure 4). This model showed good fit, $\chi^2(7) = 1.82$, ns; CFI = 1.00, RMSEA = .00, SRMR = .010. The proportional change effects, as well as the effects of intercepts on slopes in this model, were consistent with those in the previous models. There was no significant effect of level of role clarity on change in role conflict, $\beta = -.28$, ns, nor of level of role conflict on change in role clarity, $\beta = .63$, ns; thus, Hypothesis 5a and 5b were not supported. The intercepts for each variable were correlated, $\varphi = -.34$, $p < .01$. Finally, there was no relationship between the role conflict intercept and the role clarity slope, $\varphi = -.23$, ns, nor between the role clarity intercept and the role conflict slope, $\varphi = -.20$, ns. These results suggest that the T1 intercepts of role conflict and role clarity were correlated, but that subsequent changes among these variables were uncoupled.

Discussion

Researchers have long been interested in role stressors, and empirical research has supported both their immediate and more chronic effects (e.g., Nixon et al., 2011). Yet even for these well-studied stressors, we still know little about how they unfold over time due to the scarcity of true longitudinal studies. Further,
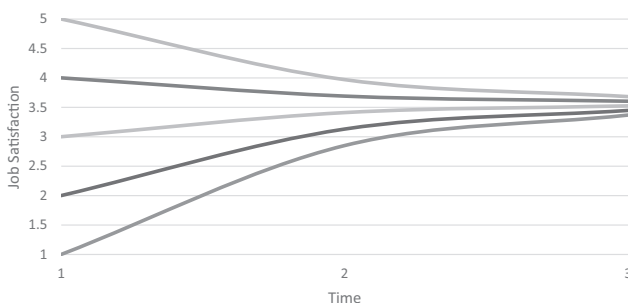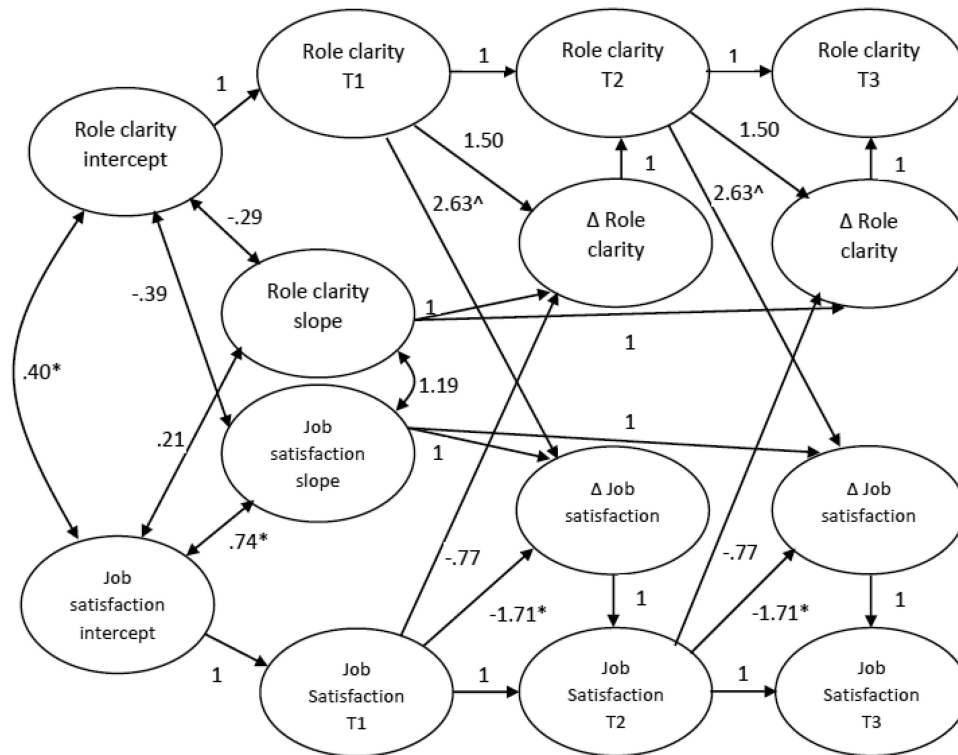
Figure 2. Bivariate latent change score analysis for role clarity and job satisfaction. * $p < .05$, $^\wedge$ $p < .10$.

the degree to which many stressor-strain theories can effectively describe dynamic change is questionable, as most theories fail to consider the role of time in relation to specific propositions (Kelloway & Francis, 2013; Matthews et al., 2014; Ployhart & Vandenberg, 2010). In the current study, we answer the call by Kelloway and Francis (2013) to employ true longitudinal research by using adaptation theory to make specific predictions regarding the relationships between role stressors and job satisfaction over time.

In contrast to many stressor-reaction models and the notion of gain and loss spirals, adaptation theorists would predict that, in many circumstances, employees rebound from role conflict *and* grow accustomed to high levels of role clarity. Previous tests of adaptation theory have primarily examined categorical changes (e.g., marriage, childbirth) in terms of life satisfaction and other indicators of subjective well-being (Diener et al., 2006). More recently, scholars have examined stimuli such as work–family conflict, which exists on a spectrum (as opposed to categorical levels), in relation to well-being over time (Matthews et al., 2014). To our knowledge, we are the first to continue this trend and test both positive and negative adaptation in response to dynamic workplace stimuli (i.e., role stressors).

Our primary results largely support adaptation theory. After accounting for the positive experience of role clarity, employees tended to adapt, with job satisfaction regressing to a more moderate level over time. Similarly, after accounting for the negative experience of role conflict, levels of job satisfaction tended to rebound over time. We also found that over the 12-week course of this study, changes in role clarity tended to be maintained, whereas changes in role conflict tended to reverse themselves.

Theoretical Implications

Our results demonstrate that adaptation theory, role theory, and conservation of resources theory are not necessarily at odds (Matthews et al., 2014) and have the potential to be effectively integrated to better guide further research. Our results support the notion that role clarity is positively and role conflict is negatively related to job satisfaction concurrently, which is consistent with conservation of resources theory. However, the proportional change coefficients in our latent-change models reflect a pattern of adaptation over time—failing to support the notion of loss or gain spirals. Thus, both adaptation and conservation of resources theories adequately explain the immediate impact of stressors on well-being, but adaptation appears to better explain long-term effects such as those in our study. As is commonly the case in applied research (Locke & Latham, 2004), individual theories are often insufficient for understanding the complexities observed in the real world. Thus, we recommend that scholars continue to work to integrate adaptation, role, and conservation of resource theories to improve our collective understanding of the stressor-strain relationship at work.

Our results also build on those of Vandenberghe et al. (2011). In a sample of recently graduated college students, the authors examined the trajectory of role stressors and job attitudes over the course of six months using latent growth modeling. They found that role ambiguity (clarity) and well-being remained constant across the three collection points. Role conflict, however, increased linearly across time and was coupled with a decrease in job satisfaction across the study. In our more heterogeneous sample of working adults, our results also show that role clarity tends to be
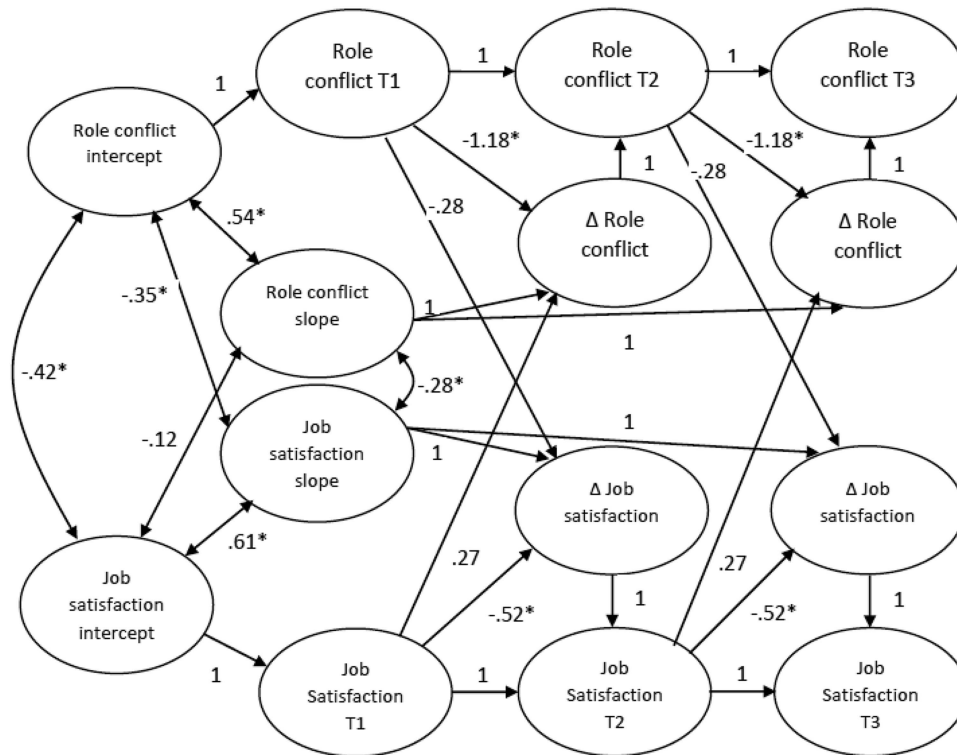
Figure 3. Bivariate latent change score analysis for role conflict and job satisfaction. * $p < .05$.

perceived at a relatively stable level and that changes in role clarity tend to be maintained. Further, job satisfaction and role conflict were also coupled in our study, as we found the latent-change slopes of job satisfaction and role conflict to be negatively related. In contrast to Vandenberghe et al. (2011), job satisfaction and role conflict did not appear to consistently increase or decrease in one direction; rather, for each variable high values tended to be followed by decreases and low values followed by increases.

Along these lines, researchers may want to consider applying different theoretical models and using different methodologies to capture phenomena associated with each type of role stressor. For example, role ambiguity appears to remain rather stable over time and thus a more static theoretical framework could be applied to research on this construct. By contrast, role conflict appears to change rather predictably over short periods of time, meaning a more dynamic theoretical framework may be needed to understand its relationship with job satisfaction. Such a dynamic framework should account for expected changes in both role conflict and job satisfaction, some of which reflect adaptation.

Another theoretical consideration is the chosen lag between assessments (six weeks). It is not clear from this study whether six weeks represents the best window for estimating adaptation effects. In fact, there may be no 'one-size-fits-all' approach to adaptation modeling. In addition to person and environmental characteristics, stimuli themselves may elicit varying adaptation trajectories. Further, strains such as psychological well-being and physical symptoms have been shown to have varying incubation periods before manifesting (Ford et al., 2014), which makes detection difficult. To this end, in the present study, job satisfaction

did not function as a protective factor against future role conflict as we hypothesized. It is possible that job satisfaction is not a strong or focused enough resource to influence future experiences of role clarity and conflict (and that more narrowly focused resources should be considered), or, that an even shorter lag (e.g., 2 weeks) is needed to detect this effect. Alternatively, job satisfaction may be a more useful resource for other individual outcomes that are more directly influenced by work attitudes (i.e., turnover intentions).

Future Directions

Like other emerging areas of research, scholars seeking to apply adaptation theory to the workplace will first need to continue to approach it from a phenomenon detection perspective (e.g., Matthews et al., 2014). At a macro level, further research is needed to better understand which constructs (both stressors as well as strains) demonstrate predictable adaptation patterns. As a process that occurs at the individual level, like most of our theories about stress, adaptation is likely to be widely applicable across constructs and populations.

Many potential boundary conditions, such as industry, occupation, or employee tenure, however, may alter the adaptation phenomenon and nature of the construct assessed. For example, the speed or trajectory of adaptation is thought to be influenced by three primary factors: valence, uncertainty, and norms (Uglanova & Staudinger, 2013). *Valence* refers to the extent that an event is "bad" or "good." Bad events typically cause slower adaptation than positive events, confirming the bad is stronger than good
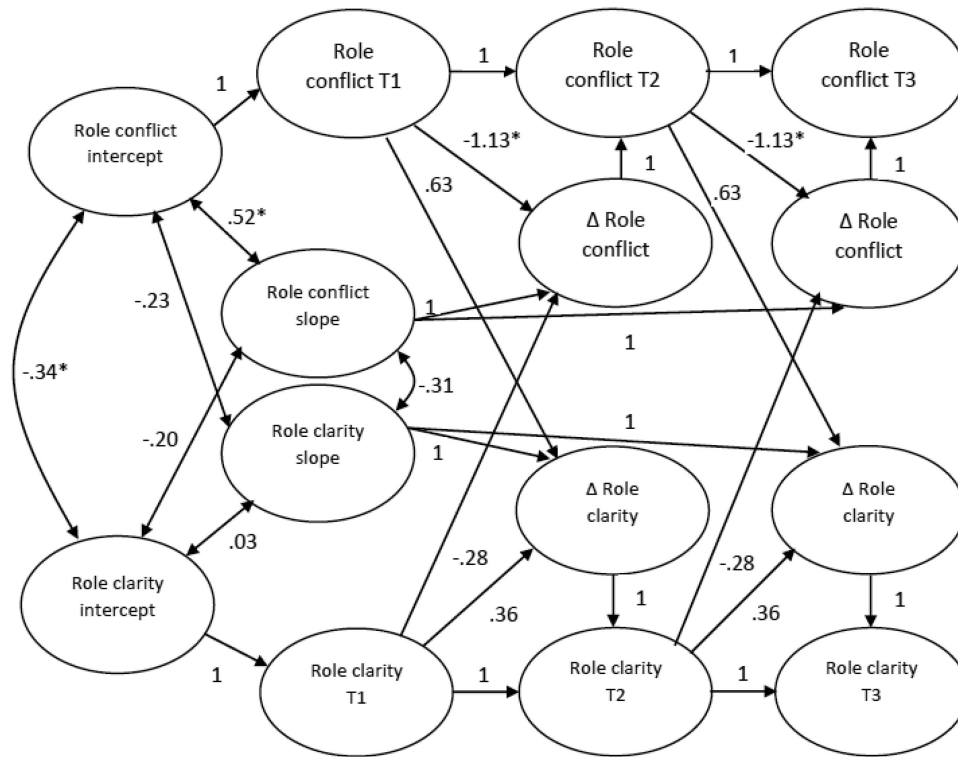
Figure 4. Bivariate latent change score analysis for role clarity and role conflict. * $p < .05$.

hypothesis (Uglanova & Staudinger, 2013). For example, working adults should adapt to the negative experience of role conflict more slowly than to the positive experience of role clarity because the relative threat to resources is more impactful than the gain of resources. The notion of valence is reflective of Hobfoll's conservation of resources theory, wherein, in Principle 1, Hobfoll discusses the primacy of resource loss (i.e., "resource loss is disproportionally more salient than resource gain"; Hobfoll, 2011, p. 128).

Further, being able to explain or anticipate the occurrence of an event can serve to reduce the *uncertainty* (the second factor thought to influence adaptation processes), and thus increase the speed of adaptation. Finally, the extent to which an event is within the *norm* for that person's life, or the norm for that person's environment, may speed the rate of adaptation (Uglanova & Staudinger, 2013). For example, if everyone in an organization experiences high levels of role conflict, we would expect faster adaptation periods because the stress of role conflict would likely become a routine experience.

As another future direction, scholars may wish to examine how individual differences (i.e., psychological or biological predispositions) and situational mediators (e.g., workplace social support) relate to adaptation response rates, as well as how job characteristics moderate these relationships. For instance, trait psychological resilience, the ability to overcome and rebound from negative experiences, may be a mechanism in the adaptation to the experience of stress (Ong, Bergeman, Bisconti, & Wallace, 2006; Block & Kremen, 1996). Ong et al. (2006) found that differences in psychological resilience explained variation in people's daily re-

sponses to stress. Another individual difference variable that may influence adaptation rates is optimism, as optimistic individuals expect positive future events, even in difficult times. For example, among other positive correlates, such as less mood fluctuation from stress, optimists have been shown to adapt favorably to medical related stressors (e.g., illness, traumatic surgery; Scheier & Carver, 1992). Self-esteem, locus of control, and previous transition experience are other individual differences thought to influence adaptation rates (Parent, 2010). In collecting such within-person data, it will be important for scholars to use multiple data collection points to help disentangle relationships between the amount of change in the stimulus needed to engender a change in the response, as well as to further illuminate the speed of decay in this response.

Another avenue for adaptation research is for scholars to embrace computational modeling techniques. Computational models are able to explicitly illustrate, with mathematical formulas, dynamic systems that are difficult to explain verbally (Weinhardt & Vancouver, 2012). Scholars may assimilate verbal theories (e.g., adaptation) with formal mathematical models (derived from computational modeling). Doing so will allow for a more precise understanding of the dynamic processes underlying the behaviors. In the case of role conflict, role clarity, and job satisfaction, a computational model may allow researchers to formally represent dynamic phenomena such as loss spirals and adaptation, and clarify conditions under which these phenomena may co-occur.

Finally, our use of latent change score modeling also represents a relatively new approach to the study of occupational stressor-outcome relations over time. This approach allowed us to separate

level from change on each variable and in turn regress change in one variable on to the previous level of the same variable. Our results suggest that these proportional change effects should be incorporated into future theoretical and statistical models of job satisfaction change across time.

Practical Implications

The recommendation to reduce role conflict and increase role clarity is nothing new in the literature (Vandenberghe et al., 2011). However, our results speak to the importance of helping employees mitigate negative experiences, like role conflict, and facilitate adaptation in the future. Furthermore, our results suggest that strengthening the impact of positive experiences, like role clarity, could potentially help employees to preserve gains over time. Organizations can accomplish this through training programs, or other interventions, aimed at educating employees on ways to clarify roles and avoid instances of role conflict. From a practice perspective, there may be significant utility in terms of merging concepts within valence, instrumentality, and expectancy (i.e., VIE) theory with that of adaptation theory. Based on our developing understanding of adaptation theory, it is possible that people may adapt more slowly to positive experiences or more quickly to negative experiences that they value. For example, an employee might be assigned to a very demanding client, creating a stressful work environment for this employee. However, if the employee sees instrumentality in working with this client (e.g., potential career advancement opportunities), he or she may adapt more quickly to the stressful working conditions.

Another practical implication of our results is that increases in employee job satisfaction, resulting from positive work experiences, are unlikely to persist over time. As demonstrated in this study, positive feelings of job satisfaction are likely to regress back to previous levels after some time. The implication here is that adaptation processes are likely to undermine some organizational interventions that aim for lasting effects on employee attitudes and behaviors. With this in mind, researchers need to determine the most effective means of reducing adaptation to positive experiences, such as role clarity. These methods will be essential in helping organizations build more effective, comprehensive intervention programs aimed at increasing and *sustaining* job satisfaction.

To this end, researchers have sought to understand how to prolong the effects of positive life events or occurrences (Jacobs Bao & Lyubomirsky, 2013; Lyubomirsky, 2011). Maintaining awareness of a positive change (Sheldon & Lyubomirsky, 2007) and reducing one's expectations or aspirations for more changes in the future (Liberman, Boehm, Lyubomirsky, & Ross, 2009) have both been found to reduce adaptation to positive experiences. For example, a promotion is likely to positively influence multiple indices of well-being (and other employee attitude constructs). Encouraging an employee to savor the positive experience of a promotion, in and of itself, before striving for the next positive event (e.g., a better office space) may help prolong the positive effects of the promotion.

Correspondingly, researchers focusing on adaptation to negative experiences have found that learning to appreciate one's positive life circumstances can help a person reinterpret negative life experiences and accelerate adaptation (Fredrickson, Tugade, Waugh,

& Larkin, 2003). Additionally, providing help or consolation to others can serve as a distraction from one's own misery and rumination following a negative experience, thus increasing happiness and accelerating the adaptation process (Lyubomirsky, 2011). Based on the results of our study, it seems that further research is needed to clarify how to best prolong the positive influence of role clarity while accelerating the process of adaptation to experiences of role conflict.

Limitations

As with all studies, certain limitations must be considered. First, we employed a Web-based sample, which may limit the external validity of our findings. However, it is important to note that our sample characteristics are fairly representative of the U.S. working population. As reported by the Bureau of Labor Statistics (U.S. Department of Labor, Bureau of Labor Statistics [BLS], 2014), management, professional, and related occupations constituted 38.0% of the workforce. In our study, these occupations accounted for 40.4% of the sample. The BLS estimates that sales and office occupations represent 23.1% of the workforce, while, in our study, sales and office occupations represented 33.6% of the sample. Finally, the BLS estimates that 9.1% of the workforce work in natural resources, construction, and maintenance occupations, 11.8% work in production, transportation, and material moving, and another 23.1% work in service occupations. By comparison, 5.3%, 4.5%, and 13.1% of our sample worked in these occupations, respectively. The working population is 46.9% women, 80.2% Caucasian, has a median age 42.4, and works 39.1 hours per week (BLS, 2014). By comparison, our sample was 43.4% female, 82% Caucasian, had a mean age 34.97, and worked 39.8 hours per week. We further propose that our research design demonstrates prototypicality, in that asking employees questions regarding the clarity of their roles and satisfaction with their job would be seen as prototypical. Sample relevance and prototypicality have been proposed as alternatives to identifying issues of external validity (Sackett & Larson, 1990; Landers & Behrend, 2015).

Another limitation of our study is the use of job satisfaction as a single indicator of well-being. In the future, adaptation models should be tested with a wider view of health and wellness indicators, such as sleep, emotions, anxiety, or musculoskeletal functioning. Further, researchers should expand the criterion space to include other relevant workplace constructs (e.g., contextual or task performance). Similarly, we used two of the most commonly studied role stressors, role clarity, and role conflict, yet other stressors remain. It is possible, for example, that people respond differently or more strongly to role overload and have a more difficult time adapting. However, role overload has been found to be a poor predictor of job satisfaction (Örtqvist & Wincent, 2006) and may be better examined with an alternative indicator of well-being.

A final limitation of our study is that data were only collected at three time points. In the future, researchers could use the same sampling window (12 weeks) but collect data at more than three time points, as well as compare the effects of different lag times for a more fine-grained analysis of within-person fluctuation. The use of only three data points also limits our ability to test latent-change models, such that all three variables could not be included in the same model. Increasing the number of data collection points and

improving the temporal focus of the study may provide more detailed insight on the ever-changing nature of many workplace stressors and strains. More than three time points will be needed to extend adaptation theory and answer questions such as the duration, magnitude, and correlates of adaptive change.

Conclusion

In testing the key tenets of adaptation theory, we have advanced the direction of longitudinal stressor-strain research toward a more time-conscious approach. As researchers move toward more dynamic models of organizational processes, adaptation theory appears to be a strong tool for framing, testing, and understanding work-stress phenomena. Furthermore, our research contributes to the knowledge of adaptation processes by demonstrating the presence of adaptation following experiences of role conflict and role clarity. With these contributions, organizational researchers have a stronger base from which to conduct further adaptation studies.

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