THE ANTECEDENTS AND EMERGENT EFFECTS OF UNIT-LEVEL DISPLAY RULES: A MULTILEVEL INVESTIGATION OF DISPLAY RULES IN NURSING

A Dissertation

Presented to

The Graduate Faculty of The University of Akron

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

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May, 2013

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Dissertation

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ABSTRACT

Although past work (e.g., Cropanzano, Weiss, & Elias, 2004) has theorized that emotional display rules are grounded, in part, in higher-level norms, most empirical research has focused on display rules as individual-level constructs. The present study examined the antecedents and consequences of emotional display rules at the work unit level of analysis. Using an archival dataset from a sample of registered nurses working in various units of a nine-hospital system, the present research examined the unit-level antecedents (e.g., patient acuity, patient load, patient affect) and consequences (i.e., nursing quality and patient satisfaction) of unit-level display rule level (i.e., mean) and strength (i.e., dispersion). Further, the present study utilized hospital data on unit-level patient satisfaction and unit-level patient health outcomes to determine if emotional display rules (and individual-level emotional labor constructs) relate to these criteria. Findings supported the view that the relationships between display rules and other variables are emergent across levels. Display rules conceptualized at multiple levels are associated with different correlates and consequences. Results also provided the first known support for a three-factor model of display rules: rules to show empathy, show enthusiasm, and hide negative emotions. Although rules to show enthusiasm and hide negative emotions could be conceptualized at the person and unit levels, rules to show empathy were reported at a high level throughout the sample and did not form a unit-level concept. Display rule strength was not found to be a factor in the present study, as

nurses throughout units were relatively consistent in their perceptions of display rules. Patient affect was shown to play an integral role in determining nurse display rules, as nurses felt compelled to display more positive emotion in response to patient positive affect and less negative and positive emotion in response to patient negative affect. In turn, display rules impacted nurse emotion regulation and well-being. Display rules were associated with greater nurse emotion regulation, which in turn predicted lesser well-being and greater well-being for nurses. Display rules also showed relationships with patient satisfaction. Patients were more satisfied on units with greater levels of rules to show enthusiasm and hide negative emotions. They were also more satisfied on units where nurses were experiencing less burnout. Nursing quality was predicted by patient affect and acuity, two conditions that decreased the likelihood that nursing quality standards would be upheld. Preliminary findings indicate that the type of nursing could be an important factor weighing on the emotional labor process in nursing; ambulatory nurses emerged as a somewhat unique group in the present sample due to the distinct nature of their work with greater numbers of patients who are less severely ill.

ACKNOWLEDGEMENTS

I would like to acknowledge the National Science Foundation (SES-1024271) for supporting the present research.

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CHAPTER I

INTRODUCTION

Emotional labor—the management of emotions as part of the work role (Hochschild, 1983; Theodosius, 2008)—has become widely recognized by researchers as an important element of certain jobs (e.g., Glomb, Kammeyer-Mueller, & Rotundo, 2004) with far-reaching consequences, such as an increased likelihood of emotional exhaustion, absenteeism, turnover, and physical symptoms, and lower job satisfaction (Bono & Vey, 2005; Chau, Dahling, Levy, & Diefendorff, 2009; Côté & Morgan, 2002; Grandey, Dickter, & Sin, 2004; Judge, Woolf, & Hurst, 2009). Researchers have examined how emotional labor occurs in service of organizational goals, with most authors suggesting that organizations cultivate emotional labor to produce customer contentment, which may thereby increase customer loyalty and organizational profits (e.g., Bolton & Boyd, 2003; Hochschild, 1983; Rafaeli & Sutton, 1987; Sutton & Rafaeli, 1988). In doing so, organizations establish and encourage *display rules*, which represent expectations for emotional expression on the job (Ashforth & Humphrey, 1993; Cropanzano et al., 2004; Diefendorff, Erickson, Grandey, & Dahling, 2011; Rafaeli & Sutton, 1989; Van Maanen & Kunda, 1989). Though several different types of display rules have been studied (Diefendorff & Richard, 2003; Trougakos, Jackson, & Beal, 2011), past work on display rules has often focused on *integrative display rules* (Wharton & Erickson, 1993) or rules to show positive emotions and hide negative emotions.

Integrative display rules can be found in many jobs requiring emotional labor, such as in health care, education, and service occupations (Brotheridge & Grandey, 2002). In the current study, the focus was on understanding display rules and the emotional labor process in nurses, a commonly studied occupational group in the emotions literature (e.g., Bechtoldt, Rohrmann, De Pater, & Beersma, 2011; Becker & Cropanzano, 2011; Bolton, 2005; Brotheridge & Grandey, 2002; Denison & Sutton, 1990; Diefendorff et al., 2011; Lewis, 2005; Morris & Feldman, 1997; Seery & Corrigall, 2009).

Display rules are often conceptualized as stemming from top-down influences, attributable to organizational (e.g., Arvey, Renz, & Watson, 1998; Martin, Knopff, & Beckman, 1998; Pugh, Diefendorff, & Moran, 2013; Van Maanen & Kunda, 1989) or occupational (e.g., Carmack, 1997; Ekman & Friesen, 1975; Hinds, Quargnenti, Hickey, & Magnum, 1994; Savett, 2000; Stephany, 1989; Stowers, 1983) impositions, and some evidence exists to support these assertions. However, research also suggests that display rules are based partly on bottom-up processes (Diefendorff et al., 2011), such as the expectations of individual patients (e.g., Theodosius, 2008). A recent study by Diefendorff et al. (2011) provided the first quantitative test of display rules as shared norms. The study demonstrated that (a) display rules could be meaningfully aggregated to the unit level of analysis and (b) perceptions of unit display rules influenced individual well-being outcomes both directly and indirectly through individual display rule perceptions (Diefendorff et al., 2011). In showing that display rules exhibit group-level properties, Diefendorff et al. (2011) provides an empirical foundation for more detailed theorizing about unit-level display rules.

However, the measurement focus in the Diefendorff et al. (2011) paper was on individual-level display rules rather than the display rules of units. As described in the following chapter, Diefendorff et al. (2011) employed a direct consensus procedure (Chan, 1998) to form their 'unit display rules' construct. The present study used an alternative approach—the referent-shift consensus model (Chan, 1998)—for forming the construct of unit-level display rules. Doing so provides the following benefits: (1) individual display rule perceptions and unit display rules are assessed in a way that is more consistent with their theoretical conceptualizations, increasing their presumed construct validity, and (2) assessing display rules at both levels with separate measures enables us to determine how much individual display rule perceptions overlap with unit-referent display rules, an important consideration when determining the theoretical and practical value of display rules at both levels.

The present research also advances the literature by examining the antecedents of shared display rules. Although Diefendorff et al. (2011) theorized about top-down and bottom-up influences on shared display rule perceptions, none of these factors were examined empirically. Building on the work of Diefendorff and colleagues (e.g., Diefendorff & Greguras, 2009; Diefendorff, Morehart, & Gabriel, 2010; Moran, Diefendorff, & Greguras, 2012) that has shown that display rules are influenced by the characteristics of interaction partners, the present study aims to contribute to understanding of this topic by considering how the typical affective states and *acuity* (i.e., severity of illness) of patients might shape unit-level display rules for nurses. For example, it might be expected that the emotional tone of working on a unit with terminally ill patients would require different display rules than working on a unit in

which mothers give birth to healthy infants. To my knowledge, the present study marks the first attempt to clarify how the emotional qualities of interaction partners influence the display rule perceptions of employees at the unit level. The present study also examines other potential antecedent factors, including demographic factors (e.g., tenure) and cohesion among unit members.

The present study advances emotional labor theory and research by exploring the links between shared display rules and individual-level emotional labor processes and outcomes, as well as examining for the first time the links of unit-level display rules with unit-level patient outcomes (e.g., patient health indicators and patient satisfaction). By examining the consequences of unit-level display rules, this study seeks to replicate parts of Diefendorff et al. (2011; i.e., relationships with employee burnout) while also extending it by linking display rules, nurse well-being, and other individual-level emotional labor constructs to patient outcomes at the unit level. Linking emotional labor and nurse well-being to patient satisfaction and health outcomes is important because it connects emotional labor processes to tangible and highly valued bottom-line outcomes in a hospital context.

In sum, past research on display rules has typically emphasized individual display rule perceptions (e.g., Beal, Trougakos, Weiss, & Green, 2006; Brotheridge & Lee, 2002; Diefendorff & Richard, 2003; Grandey, 2003; Grandey et al., 2004; Totterdell & Holman, 2003). Though this work has advanced emotional labor research considerably, it ignores the possibility that display rules also operate at a higher level of analysis as shared norms, and that these shared norms might exert an independent influence on person-level emotional labor processes and outcomes. Assessing display rules at the unit

level is consistent with the idea that display rules represent shared beliefs about what is appropriate that are grounded in the social context of work; such beliefs may be independent of personal beliefs about display rules. Thus, the present study originates in the proposition that shared display rule perceptions may be more than the just the sum of individual display rule beliefs, that new relationships might "emerge" after isolating the effects of individual display rule perceptions (Bliese, Chan, & Ployhart, 2007, p. 556).

Lastly, nurses have been chosen for a number of emotional labor studies due to the recognition of the extensive emotion management required and high rates of burnout in this profession (e.g., Glomb et al., 2004) and the belief that these factors have contributed to high turnover rates and the projected nursing shortage (Aiken et al., 2001; Dahling, 2007; United States General Accounting Office, 2001). Given mounting recognition of nursing as an occupation requiring emotional labor (e.g., Glomb et al., 2004), the present study investigates the processes described above in a large, archival dataset containing responses from nurses employed in patient care units of a healthcare organization, as well as company data on patient satisfaction and nursing quality indicators.

CHAPTER II

LITERATURE REVIEW

The overarching goal of the present study was to develop and test a multilevel model of emotional display rules. To accomplish this, I investigated antecedents, outcomes, and moderators of unit-level display rules.

Display Rules

Ekman and Friesen (1967, 1969) coined the term *display rules* to describe "norms regarding the expected management of facial appearance" (Ekman, 1973, p. 176). The work of Ekman, Friesen, and colleagues suggests that associations between facial movements and particular emotions are universal across humans (e.g., turning the corners of the lips up to indicate happiness; Ekman, Friesen, & Ellsworth, 1972). However, authors have recognized cultural differences regarding when particular expressions are expected and accepted (e.g., Klineberg, 1938), with researchers concluding that these cultural differences are due to socially constructed display rules, which specify the expressions valued by cultures in particular settings. Supporting the idea that cultural display rules govern social expressions, Matsumoto (1990) found that cross-cultural differences in display rules were present when participants were asked to consider social situations, though there were no cultural differences in display rules governing expressions when individuals considered the situation of being alone.

One type of social context that has been recognized as having an important influence on display rules is the workplace. Display rules have become increasingly relevant in organizations, as the requirement to display positive emotions to customers has become common practice (Grandey, Diefendorff, & Rupp, 2013). Based on the belief that positive expressions will increase customers' perceptions of service quality (Morris & Feldman, 1997) and thereby sales and customer loyalty (Ash, 1984; Heskett, Sasser, & Schlesinger, 1997; Hochschild, 1983; Peters & Austin, 1985; Pugh et al., 2013; Rafaeli & Sutton, 1987), organizations have been described as formally instituting display requirements for employees (i.e., Hochschild, 1983; Rafaeli & Sutton, 1987). This view suggests a top-down influence on display rules, with management specifying the display expectations that employees must follow. However, Ekman's (1973) original view of display rules as socially derived norms suggests that display rules may be rooted in both top-down and bottom-up social processes. I return to the issue of top-down versus bottom-up sources of display rule information in a later section.

Empirical Findings

Correlational research has linked display rules to an increase in effortful regulation strategies, such as surface acting (e.g., Gosserand & Diefendorff, 2005), deep acting (e.g., Grandey, 2003), or both (e.g., Bono & Vey, 2005; Brotheridge & Lee, 2003; Diefendorff, Croyle, & Gosserand, 2005). *Surface acting* is described as merely changing one's facial expressions to be consistent with display rules (Hochschild, 1983). Alternatively, *deep acting* involves actually bringing one's feelings, and thereby one's displays, in line with display rules (Hochschild, 1983). Display rules have also been linked meta-analytically to emotion regulation, emotional performance, job stress,

psychological distress, job satisfaction, and physical symptoms (e.g., Bono & Vey, 2005; Hülsheger & Schewe, 2011). These results suggest that display rules generally lead to regulation, a known correlate of resource depletion (Baumeister, Bratslavsky, Muraven, & Tice, 1998; Muraven & Baumeister, 2000).

In addition, a few studies have examined the relationships between particular kinds of display rules and other variables. For example, demands to express positive emotions have been positively associated with organizational identification and job involvement (e.g., Bono & Vey, 2005; Diefendorff, Richard, & Croyle, 2006), observer-rated positive emotional displays and job satisfaction (e.g., Diefendorff & Richard, 2003), and deep acting at the individual (e.g., Diefendorff et al., 2005) and group levels (e.g., Becker & Cropanzano, 2011). Demands to suppress negative emotions have been linked negatively to organizational identification and job involvement (e.g., Bono & Vey, 2005), job satisfaction (e.g., Diefendorff & Richard, 2003; Diefendorff et al., 2006), and expressing naturally felt emotions (e.g., Diefendorff et al., 2005), and positively to surface acting at the individual (e.g., Diefendorff et al., 2005) and group levels (e.g., Becker & Cropanzano, 2011). Thus, dissecting "integrative display rules" into its two types of demands (i.e., show positive emotions, hide negative emotions) may provide a clearer picture of mechanisms by which these demands operate.

Several experimental studies have attempted to explicate the causal role of display rules in the emotional labor process of the individual. For example, Goldberg and Grandey (2007) randomly assigned participants to either an integrative display rule condition or display autonomy condition (i.e., show what you want). They found that participants in the display rule condition committed more task errors (signaling depleted

energy resources), engaged in more effortful regulation strategies (i.e., surface acting and deep acting), and experienced more exhaustion than did participants in the display autonomy condition (Goldberg & Grandey, 2007). Similarly, Rohrmann, Bechtoldt, Hopp, Hodapp, and Zapf (2011) found that participants instructed to express positive emotions and suppress negative emotions had higher blood pressure and heart rates compared to participants instructed to display authentic emotions; this effect was moderated by participants' trait anger such that those higher in trait anger experienced more magnified increases in physiological responding. Lastly, Trougakos et al. (2011) asked participants to step into the role of poll workers in order to compare neutral display rules (i.e., display rules to express no emotion) to display rules to express positive emotions. They found that participants instructed to express positive emotions (vs. instructions to show nothing) engaged in less suppression of emotion, which led to increased persistence on and decreased avoidance of the task. Moreover, being instructed to display positive emotions also led to a more positive mood in one's customers, which thereby increased customer perceptions of service quality and attitude favorability (Trougakos et al., 2011). Thus, the causal direction between these variables appears to flow from display rules to well-being outcomes.

Display Rules in Nursing

As mentioned previously, increased acknowledgement of high levels of emotional labor required in nursing (e.g., Glomb et al., 2004) and of nurses' high rates of burnout and dissatisfaction (Aiken et al., 2001; Dahling, 2007; United States General Accounting Office, 2001) has led to a greater focus on the emotional demands of nursing (e.g., Aiken et al., 2001; Bolton, 2005; Denison & Sutton, 1990; Lewis, 2005). Early in this stream of

research, Denison and Sutton (1990) noted that operating room nurses "have a complex and varied set of rules about what constitutes appropriate behavior" (p. 307) and that these nurses "had to be skilled in displaying a variety of emotions—and acting sincere about it—no matter how they really felt" (p. 308). Similarly, Lewis (2005) captured the perspective of a nurse working on a neonatal intensive care unit:

> The nurses are closer to the emotional pathway with the parents because the parents sit there for five hours…so you are continuously standing, sitting, walking next to those parents. The doctors go from one room to the other…they come in every so often…they are not continuously there so you run as nurses continuously through those emotions with the parents, their ups and downs, the ins, the outs, the crying, the anger, all those emotions that come around. (Lewis, 2005, p. 573)

Both sources above highlight the unique emotional demands faced by nurses in comparison to other healthcare professionals. The Lewis (2005) quotation suggests that there are specific qualities about the nursing occupation that elicit emotional demands, such as constant proximity to patient families. Bolton (2005) endorses this sentiment, recognizing that nurses spend a considerable amount of time and effort managing emotions—both their own and those of patients—in an attempt to create an atmosphere conducive to getting "the job done" (p. 26). The Denison and Sutton (1990) quotation goes further in saying that there are diverse and numerous rules (i.e., display rules) guiding the emotional behaviors of nurses and that nurses are expected to abide by these rules by displaying the appropriate emotions in a sincere manner. Erickson and Stacey (2013) also support nursing as an occupation that is subject to unique emotional demands and recommend separating such occupations that require "carework" (p. 4) conceptually from those that require commercialized emotional labor. Given these heavy emotional

demands, it is understandable why a large proportion of nurses are burned out and intend to turnover (i.e., Aiken et al., 2001).

Also apparent in the nursing emotional labor literature is the notion that different types of nurses are faced with different emotional demands. For instance, in addition to the notion that surgical nurses are aware of specific display rules that should be followed (e.g., Denison & Sutton, 1990), Feldstein and Gemma (1995) documented the intense grief felt by oncology nurses (i.e., nurses caring for cancer patients). However, this grief often goes unexpressed with patients, as oncology nurses are taught that such emotional displays interfere with their ability to provide effective care (Feldstein & Gemma, 1995). Hence, one may conclude that there is a display rule to suppress negative emotions present in oncology nursing units; moreover, the display rules of oncology nurses may be different from those of other nursing specialties.

Theodosius (2008) adds to this conversation, stating that display rules "represent something that is infinitesimally social and external to the individual yet something intrinsically personal, internalised by the individual" (p. 205). This statement underscores the original definition of display rules by Ekman (e.g., Ekman, 1973; Ekman et al., 1972) and the multilevel nature of display rules by stating that display rules are socially constructed entities that are also internalized on an individual level. In this way, Theodosius (2008) recognizes the ability of patients to negotiate display rules by communicating (either intentionally or not) which displays are of importance to them via transaction-defining cues of specific situations (Rafaeli & Sutton, 1987). Although individual differences in patient affect and expressivity may cause nurses to make minor adjustments to the display rules they follow in any given interaction (e.g., Theodosius,

2008), patients experiencing certain types of illness or conditions may share several attributes on a given unit (e.g., severity of illness/condition, emotional state) and collectively these attributes may impact unit-level variation in display rules. Erickson and Stacey (2013) support this view in their creation of an emotion practice framework that recognizes the multitude of elements in caring contexts (e.g., nursing) that may impact interaction norms. Thus, since display rules are socially constructed in part through the collaboration of individuals, they should exhibit shared properties and relate to unit-level conditions.

Display Rules at the Unit Level

Organizational research has increasingly acknowledged the importance of incorporating hierarchical systems theory into empirical tests of phenomena, including a focus on relationships at multiple levels of analysis and the impact of higher-level nesting factors on lower-level processes (Kozlowski & Klein, 2000). Consistent with the notion that display rules represent norms or shared beliefs about appropriate expressions (e.g., Ekman, 1973; Ekman et al., 1972) and recent empirical work documenting unit-level display rules (Diefendorff et al., 2011), the present study suggests that display rules exist and have effects at multiple levels of analysis. In support of this idea, Bartel and Saavedra (2000) proposed that emotional expressions are guided by social norms, suggesting that display rules are the product of interactions among individuals and it is more meaningful, perhaps, to examine display rules at levels above that of the individual. Kelly and Barsade (2001) built on this proposition by suggesting norms guiding emotional expressions are shared amongst members of individual work groups. Other authors argue that for employees working together in units, display rules are part of the

shared experience of their unit (Ashkanasy, 2003; Gibson, 1997); and some authors suggest that display rules are best conceptualized at the unit level (e.g., Becker & Cropanzano, 2011) based on literature suggesting that workgroups develop shared understandings of social constraints on emotional displays (e.g., Gibson, 1997).

Martin et al. (1998) performed a qualitative analysis of employees working in units of an international beauty retailer ('The Body Shop'). They found that emotional expressions were stringently controlled by strong group norms (Martin et al., 1998), further supporting to the idea that unit display rules exist and shape individual behavior. Given the literature suggesting that display rules are the product of socially negotiated norms and the supposition that patients on a given unit share similar characteristics such as acuity and affect and may benefit from certain types of nurse emotional displays, the present study focuses on display rules at the unit level.

As discussed above, Diefendorff et al. (2011) provided a preliminary examination of unit-level display rules in nurses. They found support for the proposition that display rules at the unit level are meaningful and important for employee well-being. In forming the unit-level display-rule construct, Diefendorff et al. (2011) used the direct consensus composition model (Chan, 1998); this procedure involved assessing employee self-reports of the display rules they perceive as being required of them and computing intraclass correlation coefficients (ICCs) and r_{wg} values to determine whether there was enough between-unit variance and within-unit agreement to support aggregation of individual display rule perceptions to the unit level. Although the direct consensus model has been recognized as a viable method for deriving higher level constructs (Kozlowski

& Hults, 1987), Chan (1998) argues that the referent-shift consensus approach may produce a more accurate representation of higher level constructs.

Implementation of the referent-shift consensus model is very similar to the composition of unit-level constructs using direct consensus; however, the difference lies in who the referent is at the time of measurement (Chan, 1998). For example, in a direct consensus model of climate, employees would be asked to report on their individual experience of climate and then these perceptions would be aggregated to a higher level (e.g., the department level) pending support of such aggregation from ICCs and r_{wg} values (Chan, 1998). However, in a referent-shift model of climate, employees would be asked to report on the departmental climate specifically (in addition to or instead of reporting on their individual experience of climate), and reports of departmental climate would then be aggregated to the departmental level pending support from ICCs and r_{wg} values (Chan, 1998). In this example, the referent shifted from the climate experienced by the *individual* to the climate of the *department* as reported by departmental members. Therefore, the new construct of departmental climate represents the climate of the *collective* rather than the climate of the *individual* (Chan, 1998). The present study builds on the results of Diefendorff et al. (2011) by using referent-shift consensus to measure the construct of unit-level display rules.

Additionally, Diefendorff et al. (2011) provided evidence that unit-level display rules exert effects that are emergent in nature (Bliese et al., 2007). In particular, unit-level display rules explained unique variance in well-being outcomes above and beyond the effects of individual-level display rules (Diefendorff et al., 2011). Specifically, unit-level display rules predicted job satisfaction after controlling for the effect of grand-mean-

centered individual-level display rules (Diefendorff et al., 2011), suggesting that the effect of unit-level display rules was different from the effect of individual-level display rules. This finding suggests that the effects of individual-level display rules and unit-level display rules may not be *isomorphic*, or have a "one-to-one correspondence" (Bliese et al., 2007, p. 553), but rather that effects at the unit level are distinct from those at the individual level. Similarly, the present study tested the potential for unit-level display rules to exhibit emergent effects in the prediction of nurse outcomes.

A graphic representation of the theoretical model guiding the present research is presented in Figure 1. In the model, unit-level variables are expected to have effects on both the level (i.e., mean) of unit display rules as well as the strength (i.e., lack of dispersion) of unit display rules. The factors presumed to have an effect on the level of unit display rules include patient acuity, patient affect, and patient load, based on research suggesting that the qualities of interaction partners may shape display rules (e.g., Rafaeli & Sutton, 1990; Tan, Foo, Chong, & Ng, 2003). Antecedents of unit-level display rule strength in the model include task and social cohesion, as well as mean unit tenure, based on prior work arguing that such factors may shape perceptual agreement (e.g., Klein, Conn, Smith, & Sorra, 2001; Nelson, 2010). In turn, unit-level display rules are expected to influence unit-level indicators of nursing quality (i.e., patient health outcomes and patient satisfaction) as well as individual-level emotional labor processes. Further, unit-level display rule strength is expected to be a moderator of the effects of unit display rule level on other variables. Relationships between unit display rules and individual-level emotional labor and well-being have been supported in past research (i.e., Diefendorff et al., 2011), but the present study marks the first attempt to link display rules to outcomes

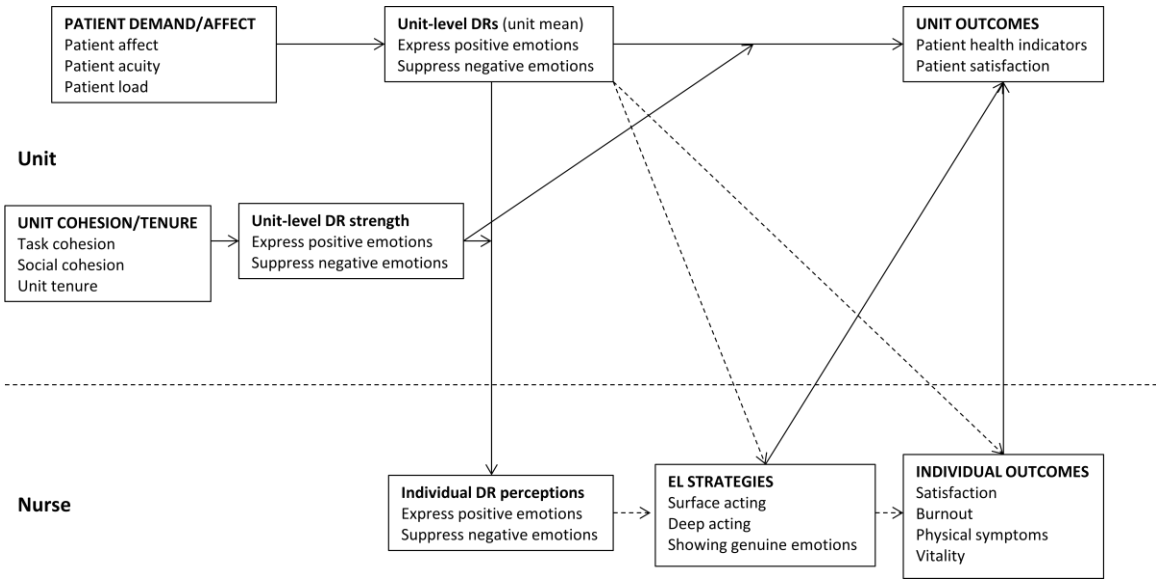

Figure 1. Theoretical model of unit- and nurse-level relationships among display rules and their antecedents and consequences. DR = display rule. EL = emotional labor. Solid lines indicate hypothesized links. Dashed lines indicate expected links.

at the unit level. Further, the present study explored the possibility of an indirect effect of unit display rules on the patient satisfaction and health constructs through individual-level emotional labor processes and nurse well-being.

Influences on Unit-Level Display Rules

As discussed previously, display rules can be the product of top-down influences, such as organizational policies, or bottom-up influences, such as unanticipated job dynamics and interpersonal interaction patterns (Diefendorff & Richard, 2008). A growing body of work has recognized that customer demand affects the emotional displays of service employees. Tan et al. (2003) and Rafaeli and Sutton (1990) found that cashiers displayed more positive emotions when interacting with demanding customers compared to non-demanding customers, suggesting a positive relationship between customer demand and positive displays, perhaps mediated by display rules.

One study (i.e., Diefendorff & Richard, 2003) examined the antecedents and consequences of display rules. Diefendorff and Richard (2003) found that as interpersonal demands on the job increased, so did individual perceptions of integrative display rules. A consequence of display rules to express positive emotions was coworker-rated employee emotional displays. The results of these studies support the inference that customer demand amplifies integrative display rules, which in turn may lead to employee displays of positive emotion.

In the nursing realm, escalating patient load and acuity (i.e., degree or severity of illness) have robbed nurses of time they were previously able to spend on emotional care with patients (Theodosius, 2008). When nurses are unable to spend the desired amount of time with patients, they are also inhibited from providing the necessary emotional care to

patients to keep them calm while minor procedures are conducted (Theodosius, 2008). In an example of an occasion when a nurse *was* provided the time to appropriately manage her patients' emotions, Theodosius (2008) provides a vivid account (Vignette 3, p. 49) of a nurse who is able to emotionally prepare her patient for the removal of a surgically implanted drain in a sensitive area of the body. As a result, the patient felt physically comfortable during the procedure and the nurse was able to complete the procedure with much less disturbance to the patient than the patient had anticipated.

Because hospitals tend to keep patients experiencing similar conditions on the same unit, units are expected to differ in the level of acuity of their typical patients. That is, the nature of the nursing work and emotional displays that are needed likely depends on the health condition and emotional state of patients that need their help. As exemplified in the vignette recounted above, patients on units with high acuity (i.e., severe illness) may require increased levels of emotional care to offset or ease the physical pain they are experiencing. This perspective is consistent with fieldwork (e.g., Rafaeli, 1989) in other emotional labor settings which indicates that employees working with demanding customers (i.e., sicker patients) use positive emotions to gain control over such interactions, which may be longer and more complex than interactions with less demanding customers (Rafaeli & Sutton, 1990). The emotional care that nurses provide in such instances might take the form of increased empathy, as it has been said that nurses "relieve pain and suffering not by medical means but by compassion" (Smith, 1992, p. 16). Moreover, when units have patients of high acuity, suppressing negative displays might prove important since negative emotional displays (e.g., disgust) may cause patients to respond with greater anxiety, and such psychological stress has been

shown to be detrimental to a number of physiological systems (e.g., the immune, cardiovascular, and gastrointestinal systems; Viamontes & Nemeroff, 2010). If we consider high patient acuity to be a form of 'customer demand,' research suggests that increased acuity will amplify integrative display rules.

Furthermore, display rules to express positive emotions in the present study are aligned with the positive emotions that may be more expected of employees in the nursing realm as opposed to the commercial realm (e.g., cashiers, customer service representatives, flight attendants). The present study defines 'display rules to express positive emotions' as employees' perceptions of the extent to which they are expected to express reassurance, sympathy, and friendliness (see Appendix A for items). Thus, demands to express positive emotions in the present study might be more accurately considered demands to express empathetic emotions, consistent with the nature of the nursing profession. It is also possible that rules to express empathetic emotions are considered distinct from rules to express friendly emotions, which would suggest the presence of a three-factor structure of integrative display rules (i.e., express empathy, express friendliness, and suppress negative emotions). I return to this idea in the Results section, where the factor structure of display rules is explored.

Hypothesis 1: Unit-level patient acuity is positively related to unit-level display rules to (a) express positive emotions and (b) suppress negative emotions.

As mentioned above, increased patient loads are a contributing factor to the hindrance of nurses' abilities to provide calming emotions to patients (Theodosius, 2008). When nurses must move quickly from one patient to the next, there is simply no time to provide the level of emotional care to patients that nurses would like. Similarly, busyness

in retail settings has been found to diminish employee displays of positive emotion (e.g., Pugh, 2001; Rafaeli & Sutton, 1990). Although prior work (e.g., Pugh, 2001; Rafaeli & Sutton, 1990) has not examined the relationship between busyness and actual displays or display rules at the unit level, it is possible that this relationship may be homologous (i.e., similar) across levels. However, if we suppose (a) that mediating the link between busyness and decreased displays of positive emotion is a display rule guiding such displays and (b) that this relationship generalizes from the within-store level to the between-unit level, then on units that are busier (i.e., have greater patient loads), display rules to express positive emotions will be less pronounced. On the other hand, display rules to suppress negative emotions are not expected to covary with unit-level patient load, as unit busyness likely does not influence the extent to which displays of negative emotions are expected. Also, inherent in patient load is the idea that different units have different aspects of the nursing environment that impact display rules. I explored the possibility that the type of nursing (e.g., ambulatory, critical care, pediatrics, etc.) is one of these factors in the present data, although formal hypotheses about these relationships are not made.

Hypothesis 2: Unit-level patient load is negatively related to unit-level display rules to express positive emotions.

Another unit-level quality of patients that may impact unit display rules is patient affect. According to both the behavioral ecology view of facial expressions (Fridlund, 1997) and the emotions as social information (EASI) model (Van Kleef, 2009), expressions communicate information to observers. The EASI model posits that observer behavior is influenced by sender behavior through two pathways: inferential processes

and affective reactions (Van Kleef, 2009). The first pathway involves the use of senders' expressions to infer information about one's own feelings, attitudes, and behavioral intentions, which in turn influence one's behaviors (Keltner & Haidt, 1999; Van Kleef, 2009). The second pathway posits that sender behavior influences observer behavior either through contagion processes (Hatfield, Cacioppo, & Rapson, 1994) or by impacting impressions and interpersonal liking (Van Kleef, 2009). For example, in units where patients display more positive affect (e.g., a unit in which infants are birthed), patient positive affect may signal to nurses that the appropriate emotional response is to display positive emotions also (e.g., Fridlund, 1997) because doing so may serve to reassure new parents and perpetuate the positive emotions they are experiencing. Similarly, displaying positive emotions in response to positive events is socially desirable, whereas not doing so (or displaying negative emotions) would violate social norms (Theodosius, 2008). Although the expression of high-activation positive emotions by hospital patients probably occurs infrequently, the relationship between high-activation positive affect and integrative display rules is expected to be in the same direction as the relationship of low-activation positive affect with integrative display rules. As such, unit-level patient positive affect may lead to an increased prevalence of display rules to express positive emotions on the unit. In this way, patient positive affect is a form of 'social information' (Van Kleef, 2009) that informs unit display rules.

However, on units in which patients typically display negative affect (e.g., anger, depression), appraisal theory would suggest that such expressions are the result of one's goals being frustrated and the belief that someone else should be blamed for it (Smith, Haynes, Lazarus & Pope, 1993). In particular, expressions of anger indicate to nurses that

they should “back off” (Fridlund, 1997, p. 107) and perhaps not dare display any emotion to the patient. Thus, on units with patients expressing high-activation negative affect, it might be expected that nurses should adopt neutral display rules, or display rules to hide all emotion. However, recall that in the present study, display rules to express positive emotions are measured with items pertaining to expectations to show empathetic emotions. In this way, on units comprised of patients with low-activation negative affect, expressions of empathetic emotions may prove invaluable in order to calm patients and ease their tension. Thus, the following hypotheses are posited in anticipation of support for a four-factor structure of patient affect in the present study.

Hypothesis 3: Unit-level patient high-activation positive affect is positively related to unit-level display rules to (a) express positive emotions and (b) suppress negative emotions.

Hypothesis 4: Unit-level patient low-activation positive affect is positively related to unit-level display rules to (a) express positive emotions and (b) suppress negative emotions.

Hypothesis 5: Unit-level patient high-activation negative affect is (a) negatively related to unit-level display rules to express positive emotions and (b) positively related to unit-level display rules to suppress negative emotions.

Hypothesis 6: Unit-level patient low-activation negative affect is positively related to unit-level display rules to (a) express positive emotions and (b) suppress negative emotions.

The present study also explored the relationships among the antecedent factors discussed above. It may be possible, for instance, that sicker patients are also more likely to experience negative affect and to be housed on units with lower patient loads.

Antecedents of Unit-Level Display Rule Strength

In addition to considering factors that influence the level of unit display rules, the present study investigated the factors that may influence the level of display rule agreement among unit members, or what might be referred to as *unit-level display rule strength* (Klein et al., 2001). Analysis of a dispersion (i.e., agreement, strength) variable in conjunction with an aggregated variable is consistent with work on service climate strength (e.g., Schneider, Salvaggio, & Subirats, 2002) and based on the dispersion model (Chan, 1998) for forming higher-level variables. In the dispersion model, the higher-level variable is not the average of the lower level one but rather the variability or dispersion in the lower-level variable (Chan, 1998). Generally, the extent of within-group agreement on perceptions in the workplace has been predicted by social camaraderie and work interdependence among group members (e.g., Klein et al., 2001) as well as compositional demography (Nelson, 2010). Accordingly, I consider cohesion and unit tenure as antecedents of unit-level display rule strength.

Cohesion can be defined as forces which compel members to remain within a group (Festinger, 1950) and has been linked to team morale, social support, cooperation within teams, workload sharing, goal interdependence, job satisfaction, team effectiveness, and team work performance (Carless & DePaola, 2000). Further, research has divided cohesion into two categories: task cohesion and social cohesion (Carless & DePaola, 2000). *Task cohesion* represents the extent to which group members agree on

the procedures and practices for achieving work tasks, and *social cohesion* is analogous to the level of social camaraderie in a workgroup (Carless & De Paola, 2000). Past research has found that task cohesion is a shared property (Chang & Bordia, 2001; Mason & Griffin, 2003; Patterson, Carron, & Loughead, 2005). Similarly, research has also shown that social cohesion can be represented at the group-level (Chang & Bordia, 2001; Jordan, Feild, & Armenakis, 2002; Mason & Griffin, 2003; Patterson et al., 2005; Stewart, Fulmer, & Barrick, 2005). Research has linked group-level cohesion to performance in sports (Patterson et al., 2005), military team performance (Jordan et al., 2002), task role dispersion, social role dispersion (Stewart et al., 2005), group climate, motivation, and project quality (Mason & Griffin, 2003).

Similarly, a great deal of organizational theory and research supports the proposition that interactions among coworkers lead to shared perceptions of the work environment (e.g., Berger & Luckmann, 1967; Schneider & Reichers, 1983). Social information processing theory, for example, supports the idea that discussions of individual perceptions of workplace events can lead to agreement on shared perceptions of the workplace (e.g., Salancik & Pfeffer, 1978; Thomas & Griffin, 1989). People who share interaction groups at work attach common meanings to organizational events, whereas interpretations of events are differentiated for those who do not share interaction groups (Krackhardt & Kilduff, 1990; Rentsch, 1990). Additionally, Morgeson and Hofmann (1999) highlight interaction among organizational members as a key contributor to the emergence of collective constructs. Further, high cohesion may be indicative of the presence of a collective identity (Brewer & Gardner, 1996) in a given

unit, suggesting that individual unit members define their roles and identity in terms of their unit membership.

For units in which nurses enjoy the company of their peers (i.e., social cohesion is high), interaction amongst such members is likely to be greater, which should lead to more cohesive perceptions of unit-level display rules. Similarly, nurses who agree on how to achieve work tasks (i.e., task cohesion is high) may also share other perceptions of the work environment, including unit display rules. On the other hand, for units in which there is disagreement on how to perform tasks and/or in which nurses generally do not gravitate toward one another on a personal level, we might expect these difficulties to be reflected in more compartmentalized interactions among unit members which may translate into low levels of agreement on unit display rules. Theodosius's (2008) qualitative work also alludes to the existence of varying levels of display rule strength across units based on the social cohesion amongst unit members. For example, the "alpha populars" (p. 128; younger nurses who were outgoing and paid attention to ward politics) found it much more acceptable to be jovial on the unit than did the "alpha seniors" (i.e., older nurses who were quietly cynical) or the "beta group" (i.e., nurses belonging to a cultural minority who were regularly bullied). At the unit level, these compartmentalized groups (i.e., low social cohesion) may contribute to widely varying perceptions of unit display rules as indicated by low display rule strength.

Moreover, the average level of nurse tenure on the unit may impact the level of unit-level display rule strength. Although Klein et al. (2001) did not find support for the proposition that demographic heterogeneity (i.e., in age, education, pay, tenure, and gender) predicted group-level agreement on workplace perceptions, they suggest that

they may have found significant results if they had been able to consider the effect of group tenure. Similarly, the attraction-selection-attrition (ASA) framework posits that through recruitment, selection, and turnover processes, individuals that stay within a work environment for an extended period of time are likely to develop similarities which contribute to a homogeneous culture over time (Schneider, Goldstein, & Smith, 1995). Likewise, social learning theory (Bandura, 1977) supposes that skill acquisition is the result of repeatedly observing others and modeling their behaviors. Moreover, work on customer orientation has highlighted the impact that organizational socialization has on the development of customer-oriented behaviors (e.g., Kelley, 1992). To that extent that units with higher mean tenure have had more numerous opportunities to observe one another and synchronize their emotion management behaviors, we can expect that such units will show greater agreement on shared perceptions. On the other hand, on units in which nurses have not spent a great deal of time together (i.e., lower unit tenure)—which implies less member interaction and a decreased likelihood of shared perceptions (e.g., Berger & Luckmann, 1966; Schneider & Reichers, 1983)—agreement on unit display rules is likely to be lower.

In sum, task and social cohesion at the unit-level, as well as average levels of unit tenure, should contribute to the strength of unit-level display rules. As task cohesion, social cohesion, and average unit tenure increase, display rule strength is also expected to increase.

Hypothesis 7: (a) Unit-level task cohesion, (b) unit-level social cohesion, and (c) average unit tenure are positively related to unit-level display rule strength.

Outcomes of Unit-Level Display Rules

Although Diefendorff et al. (2011) examined the links of unit-level display rules to individual-level outcomes, no empirical work has linked unit-level display rules to unit-level outcomes. Presumably, the unit-level display rules construct could be expected to have effects on outcomes at the same level of analysis. Examining the unit-level outcomes of display rules contributes to a greater understanding of the display rules construct and its impact in organizations. Evidence for consequences of display rules at the unit level would provide support for the importance of these rules to the organization and its customers (i.e., patients), in addition to findings that have already shown the influence of display rules on the laborer. Such findings would also underscore the importance of shared display rules at levels above that of the individual, suggesting that outcomes coalesce at the unit level possibly through the influences of top-down, bottom-up, or both types of processes.

Diefendorff et al. (2011) found that unit-level integrative display rules (combining demands to express positive and suppress negative emotions) were negatively related to person-level job satisfaction and positively related to person-level burnout. Whereas the relationship of unit-level display rules with burnout was accounted for by the effects of individual display rule perceptions (i.e., there was no independent effect of unit-level display rules beyond the effects of individual-level display rules), the relationship with job satisfaction was distinct from the individual-level display rule effect (Kozlowski & Klein, 2000) suggesting the presence of emergence (Bliese et al., 2007). It is unclear whether unit-level display rules to express positive emotions and suppress negative emotions would have roughly the same or different effects and how these display rules

would relate to more distal unit-level patient outcomes. As such, I develop theory below pertaining to the links of unit-level display rules with person-level nurse outcomes and unit-level patient outcomes.

Individual-Level Nurse Outcomes. Kozlowski and Klein (2000) posit that the fundamental goal of a multilevel perspective on organizational phenomena is to uncover principles that facilitate understanding of how processes and occurrences manifest across levels. In doing so, they note that such research should focus on "significant and salient phenomena" (p. 9) across levels in order to drive a theoretically sound and practically important science of organizations. Likewise, the present study focuses across levels on how unit display rules impact the individual emotional labor process and, in turn, how nurse well-being impacts unit-level patient outcomes and reactions. For example, to the extent that individual perceptions of display rules overlap with unit-level display rules—as a result of top-down influences on individual perceptions, bottom-up compilations of individual perceptions, or both—one might expect individual nurses to possess perceptions of display rules that are related to the display rules of their unit.

Reflecting an approach that is similar to the one taken in this manuscript, Chen, Lam, and Zhong (2007) showed that team empowerment was related to individual-level subordinate empowerment, which in turn moderated the relationship between leader-member exchange (LMX) and job performance. Additionally, Zohar and Luria (2005) showed that organizational safety climate predicted group safety climate and that group safety climate was more proximally related to group role behavior. Furthermore, Kozlowski and Klein (2000) proposed that linkages across levels are more likely to occur for constructs that are proximal and coupled, suggesting that the link between unit-level

display rules and individual-level display rules may be stronger than relationships between unit-level display rules and other individual-level constructs. Therefore, the research presented above contributes to the expectation that unit-level display rules are positively related to individual-level display rule perceptions.

Hypothesis 8: Unit-level display rules to express positive emotions are positively related to individual perceptions of display rules to express positive emotions.

Hypothesis 9: Unit-level display rules to suppress negative emotions are positively related to individual perceptions of display rules to suppress negative emotions.

In addition, I posit that unit-level display rule strength may moderate this relationship. High agreement (i.e., low variability) in ratings of unit display rules suggests the presence of a strong unit norm (Grizzle, Zablah, Brown, Mowen, & Lee, 2009). Several authors (e.g., Mischel, 1976, 1977; Schneider et al., 2002) have noted that strong norms, situations, or climates lead people to perceive events similarly and possess uniform expectations about appropriate behavior. If there is low variability in ratings of unit display rules (i.e., high unit-level display rule strength), then this would suggest that nurses are in agreement on the display rules of their unit and that their individual perceptions of display rules should be uniform as well. On the other hand, low unit-level display rule strength would suggest that display rules are not perceived similarly throughout the unit and that expectations about appropriate behavior vary or are nonexistent (Mischel, 1976; Schneider et al., 2002). This contention leads me to expect that unit-level display rule strength may moderate the positive relationship between unit display rules and individual display rule perceptions.

Hypothesis 10: The relationship between unit and individual display rules to express positive emotions is moderated by unit-level display rule strength, such that the relationship is stronger when display rule strength is high and weaker when strength is low.

Hypothesis 11: The relationship between unit and individual display rules to suppress negative emotions is moderated by unit-level display rule strength, such that the relationship is stronger when display rule strength is high and weaker when strength is low.

As shown in the lower portion of Figure 1, nurses' individual display rule perceptions are expected to influence their strategies for regulating emotions and individual well-being. I review the literature supporting these relationships here, but note that formal hypotheses are not stated since tests of these relationships represent replications of past work. For example, in addition to providing support for a direct relationship between individual display rule perceptions and well-being (e.g., Diefendorff et al., 2011), evidence supports the idea that this relationship is mediated by emotion regulation strategies. Typically, such research has identified display rules as an antecedent of emotion regulation (i.e., surface acting and deep acting) and emotion regulation as a proximal contributor to well-being outcomes. The presence of higher levels of display rules is analogous to the existence of a more stringent or difficult goal (Diefendorff & Gosserand, 2003). As such, increased display rules will require more effort and also result in more situations in which the person's felt emotions do not naturally align with the display rule (i.e., resulting in a sensed discrepancy). This will result in a greater need to actively regulate emotions by deep acting and surface acting

(Bono & Vey, 2005). Illustrating some of these points, Goldberg and Grandey's (2007) call center simulation showed that instructing participants to display positive emotions to customers led to the use of effortful strategies such as surface acting and deep acting. Surface acting then mediated the effects of display rules on emotional exhaustion (Goldberg & Grandey, 2007).

Similarly, Trougakos et al. (2011) demonstrated that neutral display rules predicted service representatives' use of suppression to manage emotions, which then influenced their persistence with and avoidance of customers. In a meta-analysis, Bono and Vey (2005) found that display rules were positively related to deep acting and surface acting. Although surface acting and deep acting are the most commonly researched regulation strategies in the emotional labor realm, Ashforth and Humphrey (1993) suggested that service providers might also comply with display rules by not acting (i.e., displaying emotions without modification). Diefendorff et al. (2005) supported this perspective and showed that expressing emotions as they are naturally felt was used more often than surface and deep acting by service providers. Moreover, they showed that display rules to express positive emotions were positively related to deep acting (Diefendorff et al., 2005). Display rules to suppress negative emotions were positively related to surface acting and negatively related to expressing emotions as they are naturally felt (Diefendorff et al., 2005).

A large body of work has also shown that surface acting is negatively related to well-being (e.g., Brotheridge & Lee, 2002; Beal et al., 2006; Grandey, 2003; Grandey et al., 2004; Gross & John, 2003; Hülsheger & Schewe, 2011; Totterdell & Holman, 2003). For example, Brotheridge and Lee (2002) linked surface acting to increased emotional

exhaustion, depersonalization, display rules to suppress emotions, and negative affectivity. Surface acting also demonstrated negative associations with personal accomplishment, role identification, and positive affectivity in this study (Brotheridge & Lee, 2002). In a recent meta-analysis on emotional labor (i.e., Hülsheger & Schewe, 2011), surface acting displayed strong positive relationships with emotional exhaustion, depersonalization, psychological strain, and psychosomatic complaints, and negative associations with job satisfaction and organizational attachment.

On the other hand, expressing one's felt emotions has been shown to be positively related to well-being. People who display emotions as they are felt as opposed to engaging in surface or deep acting avoid the resource-depleting effects (e.g., Baumeister et al., 1998; Gross, 2002) of such acting. They also receive the benefits of displaying genuine positive emotion, such as favorable patron reactions, which decrease work strain (Côté, 2005). Moreover, Butler et al. (2003) found that persons interacting with participants instructed to suppress emotion experienced heightened blood pressure in comparison to the interaction partners of participants who were not instructed to suppress emotion, suggesting that expressing one's natural emotions also results in less stressful interactions with others. Although research has found a positive link between deep acting and job performance (e.g., Grandey, 2003; Hülsheger & Schewe, 2011), empirical studies have not supported a consistent link between deep acting and well-being (Goldberg & Grandey, 2007).

In sum, display rules to express positive emotions are expected to be positively related to deep acting and unrelated to surface acting and the expression of naturally-felt emotions. Display rules to hide negative emotions are expected to be positively related to

surface acting and negatively related to showing genuine emotions, though unrelated to deep acting. In turn, surface acting and showing genuine emotions are expected to impact (in opposing directions) job satisfaction, burnout, physical symptoms, and vitality (e.g., Brotheridge & Lee, 2002; Beal et al., 2006; Grandey, 2003; Grandey et al., 2004; Gross & John, 2003; Hülsheger & Schewe, 2011; Totterdell & Holman, 2003); deep acting is not expected to impact these indicators of ill-being and well-being (e.g., Goldberg & Grandey, 2007).

Unit-Level Outcomes. Though the above discussion is helpful for forming predictions of how display rules might impact the individual (i.e., nurse) performing emotional labor, numerous articles have commented on the importance of understanding the reactions of others (e.g., patrons) to the emotional labor process (e.g., Diefendorff et al., 2005; Gosserand & Diefendorff, 2005; Miner, Glomb, & Hulin, 2005). Most of the emotional labor research to date can be said to be 'laborer-centric' in that it focuses on outcomes of the emotional labor process for the service worker (e.g., Brotheridge & Grandey, 2002; Diefendorff & Richard, 2003; Grandey et al., 2004; Schaubroeck & Jones, 2000). Although a handful of studies have considered patron responses to emotional labor (e.g., Barger & Grandey, 2006; Pugh, 2001; Tsai, 2001), only one has attempted to link display rules to customer reactions directly (i.e., Trougakos et al., 2011) and none have done so at the unit level.

Linking display rules to patient outcomes at the unit level provides an alternative perspective from that of most emotional labor research; pending supportive findings, the current research might identify unit characteristics that result in more or less favorable patient reactions. For example, if it is found that units having greater levels of display

rules to express positive emotions have healthier or more satisfied patients, organizations might consider how to thoughtfully promote such display rules on other units. Furthermore, as Liao and Chuang (2004) point out, most emotional labor transactions are not isolated to one laborer (i.e., patients may be treated by multiple nurses during a given hospital stay); thus, analyzing patient outcomes at a level above that of the individual employee (e.g., Diefendorff et al., 2011; Schneider et al., 1995) might provide a more accurate representation of the influences on such reactions.

In general, I expect that unit-level display rules will relate to unit-level patient outcomes both directly (i.e., independent of regulation and individual nurse well-being) and indirectly through an extended mediational chain in which unit display rules impact individual display rule perceptions, which impact nurse emotion regulation and well-being, which then relate to patient outcomes. Moreover, I expect that the mediated effect of unit-level display rules may actually have the opposite sign of the direct effect; in particular, the direct effect of unit-level display rules on patient outcomes is expected to be positive, whereas the indirect effect through nurse emotion regulation and nurse well-being might actually be negative. Thus, unit-level display rules are posited to exhibit a positive direct relationship with unit-level patient outcomes. Yet, unit-level display rules are expected to have a negative indirect effect on unit-level patient outcomes through increased individual surface acting, decreased expression of genuine emotions, and reduced nurse well-being. The nature of the opposing directions of effects occurring directly and indirectly from unit display rules patient outcomes suggests that person-referent display rules might operate as a suppressor of this relationship.

In terms of a direct pathway between unit-level display rules and unit-level patient outcomes, I expect that shared emotional display rules will operate in a fashion similar to service climate (e.g., Schneider et al., 2002), or what might be described as a 'climate for compassion' in the present study. *Service climate* has been defined as shared perceptions of the policies, procedures, and practices that are expected, rewarded, and supported related to customer service (Schneider et al., 2002). Consequently, expectations for the delivery of emotional services to patients (i.e., display rules) might be considered a component of the greater service climate in an organization. Research on service climate has typically demonstrated a strong positive relationship between employee perceptions of service climate and customer perceptions of service quality (Kelley, 1992; Schneider, White, & Paul, 1998) and customer satisfaction (Schneider, Bowen, Ehrhart, & Holcombe, 2000; Wiley & Brooks, 2000). Furthermore, the degree to which service employees display an orientation toward customers impacts customer satisfaction (Kelley, 1992). To the extent that greater levels of integrative display rules are indicative of unit-level service climate or customer orientation, nurses on units with greater levels of display rules should provide more effective care to patients, resulting in better patient health outcomes and higher levels of patient satisfaction.

Also, higher display rule norms may reflect a more stringent standard of care which likely translates into better effort and focus on the part of nurses working in the unit, which in turn may also lead to better patient health and satisfaction. Hence, one might expect that integrative display rules are favorable for patient outcomes. Supporting these ideas, Trougakos et al. (2011) found that display rules to express positive emotions

predicted customer positive mood, which then augmented customers' perceptions of service quality and attitude favorability.

Hypothesis 12: Unit display rules to express positive emotions are positively related to favorable patient outcomes (e.g., patient satisfaction, nursing quality).

Hypothesis 13: Unit display rules to suppress negative emotions are positively related to favorable patient outcomes (e.g., patient satisfaction, nursing quality).

As mentioned previously, consistency in nurses' ratings of unit display rules suggests that a strong unit climate exists (Grizzle et al., 2009; Mischel, 1976, 1977; Schneider et al., 2002). Translated into the present research, this work suggests that less variability in unit members' ratings of display rules makes it less likely that individual behavior clouds the relationship between unit display rules and patient outcomes. Thus, greater unit-level display rule strength should lead to a stronger relationship between unit display rules and patient outcomes as compared to weaker unit-level display rule strength. These expectations are consistent with the service climate literature, which has supported an interaction between climate level and strength above and beyond the main effects of these variables (e.g., Schneider et al., 2002). In this work, strong positive climates produced the highest amount of customer satisfaction, followed by weak negative climates, weak positive climates, and strong negative climates (Schneider et al., 2002). This research suggests variability in a unit's climate for service must be considered alongside the level of service climate in order to predict customer reactions.

Hypothesis 14: The relationships of unit-level display rules to express positive emotions with unit-level patient outcomes are moderated by unit-level display rule strength to express positive emotions.

Hypothesis 15: The relationships of unit-level display rules to suppress negative emotions with unit-level patient outcomes are moderated by unit-level display rule strength to suppress negative emotions.

In addition, I expect that unit-level display rules may, at least partially, relate to patient satisfaction and health outcomes through nurse emotion regulation and well-being. This idea suggests that person-level factors may partially mediate the effects unit-level display rules on unit-level patient outcomes through an extended mediational chain (i.e., unit display rules → individual display rules → emotion regulation → employee well-being → patient outcomes). For instance, nurses who surface act at a high level because of shared norms to suppress negative emotions may do a less effective job of managing patient emotions (and as a result, provide less effective care to the patient). Likewise, Gross and colleagues have amassed a large body of work documenting the negative effects of suppressing emotions including increased physiological reactivity (Gross, 2002), memory decrements (Richards & Gross, 2000), and increased physiological reactivity in one's interaction partner (Butler et al., 2003). To the extent that surface acting is engaged by suppressing one's emotions, we can expect that surface acting may be associated with worse patient outcomes, including physical health and satisfaction with nursing care.

On the other hand, nurse displays of genuine emotions are expected to be viewed favorably by patients. Past theory and research has suggested that displays of genuine positive emotions elicit favorable patron reactions (Côté, 2005). On the flip side, the interaction partners of individuals instructed to suppress emotion experienced heightened physiological reactivity compared with the partners of individuals not instructed to

suppress emotion (Butler et al., 2003). Taken together, past work suggests that displays of authentic emotion will impact patient health and satisfaction positively.

Similarly, nurses who are burned out, dissatisfied, low in vitality, and high in physical symptoms may be less energetic, focused, and engaged in the process of providing high quality patient care. For example, research shows a negative relationship between burnout and the supervisor-rated job performance of nurses (e.g., Parker & Kulik, 1995), suggesting that burnout noticeably impacts nurse performance. Also, meta-analytic findings (e.g., Judge, Thoresen, Bono, & Patton, 2001) suggest a moderate positive relationship (ρ = .30 [corrected]) between job satisfaction and job performance, with a similar relationship occurring when operationalizing the constructs at the unit level of analysis. In the aggregate, higher levels of nurse ill-being are expected to result in lower levels of patient satisfaction, and vice versa for higher levels of nurse well-being.

Another way in which unit-level display rules may influence patient outcomes is through resource depletion. For example, if employees on a given unit are burned out, depressed, or in poor health, they may have fewer resources available to devote to the job of enhancing patient well-being (Baumeister et al., 1998). On the other hand, units that are largely made up of satisfied people who are not burned out, depressed, or in poor health would be expected to have more resources available for preventing patient falls and increasing responsiveness to their patients. Likewise, Muraven, Gagné, and Rosman (2008) suggest that vitality can offset the effects of resource depletion by enabling one to replenish resources more quickly. These scenarios suggest that in units comprised of nurses with high well-being and low ill-being, patients should experience better health outcomes than patients in units comprised of nurses with low well-being and high ill-

being. Moreover, on units in which nurse well-being is high and ill-being is low, such positivity may trigger an upward spiral thereby increasing the well-being of other nurses and patients on the unit as posited by broaden and build theory (Fredrickson, 1998; Fredrickson & Joiner, 2002).

In order to test relationships between nurse-level predictors and unit-level outcomes, the aggregation of nurse regulation and well-being variables was expected to occur through compositional processes. In reference to Kozlowski and Klein's (2000) discussion of ways in which lower-level constructs can assert relationships with higher-level constructs, *composition* occurs when individual-level behaviors are equally weighted and form a higher-level construct (which can be analyzed in relation to other higher-level constructs) using linear aggregation. On the other hand, *compilation* occurs when the lower-level parts do not linearly combine to predict a higher-level construct (Kozlowski & Klein, 2000); for example, when the dispersion of scores is considered the higher-level construct. Individual-level well-being outcomes in the present study are expected to relate to unit-level patient outcomes through composition—as burnout and physical symptoms increase and job satisfaction and vitality decrease, patients are expected to fare worse. Distinct unit constellations of burnout, physical symptoms, job satisfaction, and vitality are not expected to impact patient satisfaction and well-being above and beyond the linear relationships of these two sets of variables.

Hypothesis 16a: Nurse surface acting is negatively related to unit-level patient satisfaction and health indicators.

Hypothesis 16b: Nurse expressions of genuine emotion are positively related to unit-level patient satisfaction and health indicators.

Hypothesis 17a: Nurse well-being (i.e., job satisfaction and vitality) is positively related to unit-level patient satisfaction and health indicators.

Hypothesis 17b: Nurse ill-being (i.e., burnout and physical symptoms) is negatively related to unit-level patient satisfaction and health indicators.

As mentioned above, the indirect effect of unit display rules on patient outcomes is expected to occur through the individual emotional labor process. This expectation supposes the existence of an extended mediational chain, a proposition that was explored in the analyses by aggregating the individual-level emotion regulation and well-being measures to the unit level.

Summary

In sum, I expect that differences in interaction partner qualities (i.e., patient affect and acuity) and working conditions (i.e., patient load) determine the level of unit display rules, whereas agreement on unit display rules is expected to be the result of unit cohesion and tenure. The interaction of the mean and dispersion of unit display rules are expected to result in an extended mediational chain where individual display rule perceptions, individual emotion regulation, and individual well-being contribute sequentially to unit-level patient outcomes (i.e., patient satisfaction and nursing quality indicators). This interaction is also expected to directly impact unit-level patient outcomes.

CHAPTER III

METHODOLOGY

Participants and Procedure

A list of all full-time registered nurses employed by a large hospital system in the Midwest United States was obtained as part of a larger study funded by the National Science Foundation (SES-1024271). In the first half of 2011, written questionnaires in sealed envelopes with personalized labels for each participant were delivered by the research team to all units within each hospital for distribution. The total number of questionnaires delivered was 1,979; out of the 1,979 surveys sent, 277 were distributed to non-eligible participants (i.e., registered nurses in managerial positions, non-full-time registered nurses, etc.). Thus, the number of eligible participants initially contacted was 1,702. Six weeks later, another survey packet was sent to eligible participants who had not yet completed a survey. Completed and usable surveys were returned by mail to the researchers from 762 participants, or 44.8% of the original eligible sample. Of these individuals, 707 belonged to units (n = 73) from which three or more responses (range = 3 - 40; M = 9.55) were obtained. These individuals represented the final sample, which contained nurses from all nine hospitals of the participating organization (see Table 1). The average response rate per unit was 51.5% (range = 13% - 100%; SD = 20.2%). The mean age of the final sample was 40.33 (SD = 12.53) and 91.4% of participants identified as female. Eighty-nine percent indicated their race as European-American/White, 6.1% as

Table 1. Means on study variables and unit counts by hospital.

	Hospital								
	Urban				Suburban		Rural		
	1	2	3	4	5	6	7	8	9
Patient acuity	2.82	2.53	2.84	1.95	2.59	2.29	2.08	2.48	2.22
Patient load	6.31	5.32	4.28	9.95	4.00	6.00	4.46	4.89	4.48
Patient high positive affect	2.51	3.34	2.77	2.68	2.51	2.73	2.58	2.76	2.68
Patient low positive affect	2.99	3.17	3.17	3.30	3.14	3.32	3.25	3.16	3.32
Patient high negative affect	3.31	3.25	3.08	3.17	3.25	3.05	3.04	3.17	3.01
Patient low negative affect	3.37	3.31	3.07	3.61	3.12	3.10	3.16	3.22	3.13
Unit empathetic DRs	4.47	4.53	4.50	4.67	4.59	4.44	4.31	4.52	4.61
Unit enthusiastic DRs	4.31	4.51	4.39	4.30	4.48	4.38	4.27	4.59	4.64
Unit negative DRs	4.13	4.24	4.30	4.20	4.36	4.46	4.19	4.48	4.51
Unit empathetic DR strength	0.54	0.52	0.50	0.32	0.62	0.67	0.65	0.53	0.55
Unit enthusiastic DR strength	0.62	0.59	0.54	0.50	0.53	0.53	0.58	0.52	0.45
Unit negative DR strength	0.79	0.74	0.69	0.88	0.77	0.63	0.63	0.67	0.72
Task cohesion	2.86	2.87	2.85	2.83	2.49	2.93	3.00	2.90	2.99
Social cohesion	2.70	2.85	2.79	2.47	2.44	2.55	2.54	2.60	2.45
Unit tenure (years)	6.42	10.08	7.90	9.55	9.52	5.70	10.36	6.02	8.41
Empathetic DR perceptions	4.49	4.48	4.50	4.54	4.62	4.65	4.35	4.55	4.54
Enthusiastic DR perceptions	4.35	4.49	4.43	4.37	4.48	4.53	4.21	4.50	4.64
Negative DR perceptions	4.15	4.14	4.34	4.28	4.38	4.47	4.26	4.43	4.35
Surface acting	2.97	2.88	2.80	2.83	3.02	2.98	3.06	3.01	3.04
Deep acting	2.96	2.87	2.65	2.63	2.79	3.17	3.06	2.93	2.89
Showing genuine emotions	3.36	3.52	3.40	3.26	3.32	3.20	3.25	3.38	3.32
Job satisfaction	2.91	2.83	2.90	3.07	2.80	2.94	3.10	2.89	2.98
Burnout	3.35	3.36	3.40	2.98	3.67	3.21	2.70	3.17	2.84
Physical symptoms	2.20	2.34	2.16	1.82	2.34	2.18	2.20	2.21	2.04
Vitality	2.84	2.85	2.80	3.20	2.75	3.08	2.88	2.91	2.80
Nursing quality	0.23	0.00	0.51	-	0.38	-	-1.33	-0.06	-
Patient satisfaction	3.40	3.62	3.89	3.68	-	-	3.56	-	3.58
# of units represented	32	4	10	3	5	3	5	10	1

African-American/Black, 2.7% as Asian-American/Asian, 0.7% as Hispanic, and 1.9% as another race. Six percent had completed a graduate degree, 63.2% had completed a baccalaureate college degree, 25.5% had completed an associate's degree, and 5.7% completed a diploma school of nursing. On average, participants worked 39.74 hours per week (*SD* = 5.73). They had spent an average of 9.39 years with their organization (*SD* = 9.32), 13.11 years in their current job (*SD* = 11.80), 7.30 years on their current unit (*SD* = 7.35), and 3.43 years with their current manager (*SD* = 3.49). Data on nursing quality indicators were available for 29 participating units and data on patient satisfaction were available for 34 participating units.

Measures

Unit-Level Measures

Patient Affect. Nurses were asked to rate how often the typical patient on their unit appears to be experiencing a variety of emotions chosen from established measures of affect (e.g., job-related affective well-being scale [JAWS], Warr, 1990; positive and negative affect schedule [PANAS], Watson, Clark, & Tellegen, 1988; Diefendorff, Becker, & Yang, 2011) intended to assess the four quadrants of the affect circumplex: high-activation positive affect (happy, enthusiastic, excited), low-activation positive affect (at ease, calm, relaxed), high-activation negative affect (angry, tense, anxious, frustrated), and low-activation negative affect (depressed, fatigued, worried, sad). Responses to each emotion item were made on a five-point Likert-type scale from 1 ("Never") to 5 ("Always"). The factor structure was examined via multilevel factor analysis (as outlined in the Results section). Unit-level scores were derived by averaging scale scores across nurses within units.

Patient Load. Participants were asked to determine their patient load by responding to one question in an open-ended format: "What is your patient load for direct care?" Responses were made by indicating the number of patients. Unit-level scores were derived by averaging the responses to this item across nurses within units.

Patient Acuity. Patient acuity was determined with one item: "What is the typical patient acuity on your unit?" Responses were made on a four-point Likert-type scale ranging from 1 ("Low") to 4 ("Very High"). Unit-level scores were derived by aggregating the responses to this item across nurses within units.

Cohesion. Task and social cohesion were measured with 10 items from Carless and DePaola (2000). Four items asked about the unit's task cohesion (e.g., "Nurses in my unit have conflicting aspirations for the unit's performance" [reverse-coded], and "This unit does not give me enough opportunities to improve my personal performance" [reverse-coded]), and six items asked about the unit's social cohesion (e.g., "Nurses in my unit would like to spend time together outside of work hours," and "For me, this unit is one of the most important social groups to which I belong"). Participants indicated their agreement with all 10 items on a four-point Likert-type scale from 1 ("Strongly disagree") to 4 ("Strongly agree"). Composite task and social cohesion scores were created by averaging each scale's respective items across nurses within each unit. Internal consistency reliability was .70 for task cohesion and .85 for social cohesion in the present study.

Unit Tenure. Unit tenure was assessed with one item, "How long have you been working on this unit?" to which participants responded by writing in the appropriate number of years and months (e.g., 5 years, 6 months), which were converted to years

(e.g., 5.5 years). Unit-level scores were derived by averaging the responses to this item across nurses within units.

Unit Display Rules. Unit-level display rules were measured with six items from Best, Downey, and Jones (1997) and two items from Diefendorff et al. (2005). Participants were asked to "rate how often nurses in your unit are expected to" complete the following behaviors: "Reassure patients who are distressed or upset," "Remain calm even when feeling astonished," "Express feelings of sympathy (i.e., saying you 'understand' or you are sorry to hear about something)," "Express friendly emotions (i.e., smiling, giving compliments, making small talk)", "Hide anger or disapproval about something someone has done (e.g., an act that is distasteful)," "Hide feelings of disgust," "Act excited and enthusiastic in interactions with patients," and "Remain calm when feeling upset or distressed." Responses to all eight items were given on a five-point Likert-type scale from 1 ("Never expected") to 5 ("Almost always expected"). Factor analysis was conducted to determine unit-level display rule scales (see Results section).

In order to form the construct of *unit-level display rule strength*, the standard deviation index was used based on work by Roberson, Sturman, and Simons (2007) and the arguments of Schmidt and Hunter (1989). Roberson et al.'s (2007) comparison of dispersion indices showed that the standard deviation is the preferred index when testing the interactive effects of construct level and strength (e.g., mean unit display rules and unit display rule strength), consistent with the present study. Using a computer simulation to assess the frequency of Type I and Type II errors associated with various dispersion indices, these authors indicated that the standard deviation resulted in fewer errors than the coefficient of variation when testing strength main effects and interactions, and that

the standard deviation is more powerful than the average deviation index for indicating strength effects (Roberson et al., 2007). The authors further state that the ease of calculating the standard deviation—in comparison to the complexity of calculating other dispersion indices that perform equally well or worse—supports its usefulness as a dispersion index. Research on service climate also uses the standard deviation index to operationalize climate strength (e.g., Schneider et al., 2002). Thus, the unit-level standard deviations of display rules to express positive emotions and display rules to suppress negative emotions were used to represent unit-level display rule strength. This variable was reverse-scored so that high scores reflect greater agreement and low scores indicate lesser agreement.

Patient Satisfaction. Patient satisfaction with nursing care was measured with six items administered by Press Ganey (a survey firm specializing in healthcare performance improvement; Press Ganey Associates, Inc., 2012) to patients after they were discharged from the hospital. The hospital system provides responses to these items on a quarterly basis. Individual patient survey responses were aggregated to the unit level creating an index of patient satisfaction comprised of two quarters of data (r = .21, *ns*, for the two quarter scores): quarter II of 2011 (at the same time as survey administration) and quarter III of 2011 (immediately following survey administration) in order to gain a more reliable portrait of patient satisfaction, especially in cases where units only saw a handful of patients per quarter. Sample items include, "During this hospital stay, how often did nurses treat you with courtesy and respect?" and "During this hospital stay, after you pressed the call button, how often did you get help as soon as you wanted it?"

Participants responded on a four-point scale from "Never" to "Always". The responses were aggregated across quarters within units.

Indicators of Nursing Quality. Indicators of nursing quality were measured with data collected by the National Database of Nursing Quality Indicators (NDNQI). The mission of the NDNQI is to "aid the registered nurse in patient safety and quality improvement efforts by providing research-based national comparative data on nursing care and the relationship to patient outcomes" (National Database of Nursing Quality Indicators, n.d., p. 2). NDNQI data are reported at the unit level and participating hospitals are provided comparison data at the state, national, and regional levels in an effort to improve patient safety and nursing quality (National Database of Nursing Quality Indicators, n.d.).

Each unit's performance on relevant indicators (e.g., pressure ulcers, ventilator-associated pneumonia, falls, catheter-associated urinary tract infections, central-line bloodstream infections) were standardized relative to the NDNQI's national norms for each unit type using the formula for computing z-scores (i.e., subtract the national mean from the unit value and divide by the national standard deviation). This procedure enabled me to compare unit performance on a variety of nursing indicators by placing them all on the same scale, as some indicators are unit-specific (e.g., falls are not collected on neonatal units) and differences in raw scores do not take into account the typical prevalence of quality infractions on the respective type of unit (i.e., intensive care patients are typically less mobile, and thus could be more susceptible to pressure ulcers than patients on other units).

Unit-level patient data for two quarters were aggregated to form one unit score on each quality indicator available ($r = .34$, $p < .10$, between the two quarters): quarter II of 2011 (at the same time as survey administration) and quarter III of 2011 (immediately following survey administration). Several indicators were considered, including: patient falls resulting in injury per 1000 patient days, catheter-associated urinary tract infections per 1000 catheter days, umbilical catheter-associated blood stream infections per 1000 umbilical catheter days, central-line-associated blood stream infections per 1000 central line days, non-umbilical central-line-associated blood stream infections per 1000 non-umbilical central line days, ventilator-associated pneumonias per 1000 ventilator days, percent of surveyed patients with unit-acquired pressure ulcers, and ratio of completed pain assessment-intervention-reassessment cycles to the total amount of cycles initiated. Patient falls are calculated monthly as a ratio of the number of falls that occurred per month to the number of patient days, where patient days are the total number of days spent on the unit by patients (e.g., 50 days if five patients each spent ten days on the unit). The monthly rates within a given quarter are then multiplied by 1,000 and then averaged to form the quarterly rate of patient falls. This procedure is the same for patient falls resulting in injury, however the numerator becomes the number of falls in which a patient was injured. Similarly, when determining infections and pneumonias calculated per 1,000 days, the denominator is the number of days in which patients had the relevant cause present (e.g., catheters in the case of catheter-associated urinary tract infections). The ratio of infections to days in which the cause was present is then multiplied by 1,000.

In order to determine whether pressure ulcers are acquired on a unit, all patients are surveyed for the presence of pressure ulcers upon arriving on a unit. Any patient who

does not have a pressure ulcer upon arrival to the unit but has one at some point during his/her stay on the unit is counted as having a unit-acquired pressure ulcer. This number is then divided by the total number of patients that have stayed on the unit within the given quarter and multiplied by 100 to form a percentage. Similarly, the percent of patients with physical restraints is computed by dividing the number of patients with physical restraints (e.g., side rails to prevent a patient from voluntarily leaving his/her bed, tucking sheets tightly so that a patient cannot move) throughout the quarter by the total number of patients on unit within the quarter and multiplying this number by 100.

To ease interpretation, hypothesis tests below are conducted between hypothesized predictors (i.e., unit display rules) and a standardized aggregate of the prevalence of each unit's quality infractions compared to national standards for similar units. As mentioned above, z-scores were computed for each unit's prevalence of quality infractions by comparing the actual number of infractions to the national average amount of infractions on similar units and then dividing by the national standard deviation. Further, for ease of hypothesis tests, unit values on the following indicators were (1) standardized respectively, (2) aggregated respectively across quarters 2 and 3 of 2011, and then (3) aggregated across indicators (falls resulting in injury, unit-acquired pressure ulcers, catheter-associated urinary tract infections, umbilical catheter-associated blood stream infections, central-line-associated blood stream infections, non-umbilical central-line-associated blood stream infections, ventilator-associated pneumonias, and percentage of pain assessment cycles completed) to arrive at one 'total quality infraction' score for each unit, due to the low *n*-sizes for many indicators. Total quality infraction values were

then reverse-scored so that higher scores reflect better nursing quality and lower scores indicate worse nursing quality.

Individual-Level Measures

Display Rule Perceptions. Individual-level display rule perceptions were measured with the same eight items used to measure unit-level display rules (Best et al., 1997; Diefendorff et al., 2005). However, participants were asked "considering your specific job, please rate how often you are expected to" complete the following behaviors: "Remain calm even when you are astonished," "Hide anger or disapproval about something someone has done (e.g., an act that is distasteful)", and "Express feelings of sympathy (e.g., saying we "understand", saying we are sorry to hear about something)," among others. Responses to all eight items were given on a five-point Likert-type scale from 1 ("Not expected at all") to 5 ("Almost always expected"). Factor analysis was conducted to determine scales (described in the Results section).

Emotional Labor Strategies. Surface acting (2 items), deep acting (2 items), and showing genuine emotions (1 item) were measured with five items. With patients as the referent, respondents reported how often they "cover up [their] true feelings" (surface acting), "pretend to have feelings that are expected but that [they] don't really feel" (surface acting), "make an effort to actually feel the emotions [they] are expected to display" (deep acting), "change [their] feelings to match the emotions [they] are expected to display" (deep acting), and "show [their] genuinely felt emotions, without modification" (showing genuine emotions). Each strategy's respective items were averaged to form composite surface acting ($\alpha = .64$), deep acting ($\alpha = .64$), and showing genuine emotions scores.

Job Satisfaction. Job satisfaction was measured by averaging four items adapted from Quinn and Staines's (1978) Quality of Employment Survey. Participants were asked to indicate their level of satisfaction with "the work hours," "the control [they] have over the work [they] do," "the routine activities of [their] job," and "the job in general" by responding on a four-point Likert-type scale from 1 ("Very dissatisfied") to 4 ("Very satisfied"). Internal consistency reliability was .75 in the present study.

Burnout. Burnout was measured with a seven-item scale (Erickson & Ritter, 2001; Erickson & Wharton, 1997). Participants were asked how often they feel certain ways on a Likert-type scale from 1 ("Not at all") to 5 ("Almost everyday"). Sample items include, "I feel emotionally drained from my work," and "My work puts too much stress on me." All seven items were averaged to form a composite burnout score. Coefficient alpha was .93 in the present study.

Physical Symptoms. Eight different physical symptoms were measured using Emmons' (1991) scale. Participants were asked to indicate how often they experience the following eight symptoms on a five-point Likert-type scale from 1 ("Rarely or never") to 5 ("Daily"): headaches, stomachache/pain, chest/heart pain, runny or congested nose, coughing/sore throat, faintness/dizziness, shortness of breath, and stiff/sore muscles. Responses to all eight items were averaged to form a composite "physical symptoms" score. Internal consistency reliability was .77 in the present study.

Vitality. The extent to which participants experienced vitality was assessed with a three-item version of Ryan and Frederick's (1997) vitality scale. Participants were asked to indicate how often they felt "energized," "alive and vital," and "alert and awake" during the previous week on a four-point Likert-type scale from 1 ("Rarely or not at all

[less than one day]") to 4 ("Most of the time [5-7 days]"). Responses to the three items were averaged to form a composite score. Coefficient alpha was .83 in the present study.

Analytic Strategy

Most analyses were conducted using regression and multilevel random-coefficient modeling in hierarchical linear modeling (HLM) software (v. 7.0, Raudenbush, Bryk, & Congdon, 2010). For analyses in which outcomes were at the person level, individual-level variables were entered at Level 1, unit-level variables were entered at Level 2, and hospital nesting was modeled at Level 3. For analyses in which outcomes were at the unit level, unit-level variables were entered at Level 1 and hospital nesting was modeled at Level 2. Across analyses, the final estimation of fixed effects without robust standard errors was used. The present dataset did not meet the criterion to use values calculated using robust standard errors due to the small number of hospitals (i.e., nine) modeled at Level 3 (Raudenbush et al., 2010). Furthermore, 'pseudo R-squared' was calculated for HLM analyses; this coefficient deduces variance accounted for by looking at the reduction in the errors of prediction by comparing two models (e.g., the null model with no predictors to the model containing predictors) rather than by squaring the regression coefficients in a single model, as is done in regular regression (Singer & Willett, 2003).

Several statistics were calculated to determine whether the proposed unit-level constructs exhibited group-level properties that justified aggregation. Consistent with prior investigations (e.g., Schneider et al., 2002), these included: ICC(1), ICC(2), and r_{wg}. ICC(1) can be described as the proportion of variance in individual-level responses that is attributable to the higher-order nesting factor (e.g., the unit); whereas ICC(2) represents the reliability of the cluster (e.g., unit) scores, or interrater reliability (Bliese &

Halverson, 1998). Moreover, r_{wg} is an index of rater agreement (Roberson et al., 2007).

Based on the recommendation of Enders and Tofighi (2007), all person-level predictors were unit-mean centered and all unit-level predictors were hospital-mean centered for hypothesis tests. This process entails that relationships between predictors and dependent variables are interpreted relative to the unit or hospital mean. For example, a positive relationship between negative display rule perceptions and surface acting would entail that when nurses are higher than their unit mean on negative display rule perceptions, they are more likely to engage in surface acting. Enders and Tofighi (2007) demonstrated that group-mean (e.g., unit-mean) centering is appropriate when analyses include the presence of Level-1 predictors and/or cross-level interactions as hypothesized in the present study. Alternatively, grand-mean centering is more appropriate when testing a model of Level-2 predictors that includes covariates at Level 1 (Enders & Tofighi, 2007), which does not apply to the hypotheses of the present study. However, in exploratory analyses in which the effects of Level-2 variables are examined as predictors above and beyond Level-1 variables (e.g., tests of emergence among predictors), predictors at both levels were grand-mean-centered consistent with recommendations (i.e., Enders & Tofighi, 2007).

CHAPTER IV

RESULTS

Results are presented in the following order. First, factor analysis results are presented for measures of unit display rules, individual display rules, and patient affect. Next, justification for aggregating variables to the unit level is discussed. Then, tests of the hypothesized model are presented. Lastly, descriptive results by nursing type are presented to provide some insight into potential differences across nursing specialties.

Factor Analysis Results

Confirmatory Factor Analysis of Display Rules

Unit-Level Display Rules. The factor structure of the unit display rules measure was examined using multilevel confirmatory factor analysis (CFA; Dyer, Hanges, & Hall, 2005; Muthén, 1994) in Mplus version 6.1 (Muthén & Muthén, 1998-2011; see Table 2). Three models were examined: (1) a one-factor 'integrative display rules' (Wharton & Erickson, 1993) model, (2) a two-factor model containing scales for display rules to 'express positive emotions' and 'suppress negative emotions,' and (3) a three-factor model in which display rules to express positive emotions were parsed into two factors—display rules to 'express empathetic emotions' and display rules to 'express enthusiastic emotions' (see Appendix A for all items). The unitary model of integrative display rules derives from the belief that display rules in service settings are implemented to achieve a common purpose: to bring interaction partners together (e.g., Diefendorff et al., 2011).

Table 2. Results of multilevel CFAs on unit-level display rules and patient affect.

Model	χ^2	*df*	RMSEA	TLI	CFI	$SRMR_w$	$SRMR_b$
Unit-Level Display Rules							
A. One-factor model	234.58*	40	0.08	0.95	0.96	0.06	0.79
B. Two-factor model (positive and negative)	115.77*	38	0.05	0.98	0.99	0.05	0.44
C. Three-factor model (empathetic and enthusiastic separate)	93.36*	34	0.05	0.98	0.99	0.05	0.58
Patient Affect							
A. Two-factor model (high and low-activation)	2162.72*	152	0.14	0.64	0.70	0.16	0.15
B. Two-factor model (positive and negative affect)	656.87*	152	0.07	0.91	0.92	0.08	0.21
C. Three-factor model (high PA, low PA, NA)	533.84*	148	0.06	0.93	0.94	0.05	0.20
D. Four-factor model	519.68*	142	0.06	0.93	0.94	0.05	0.18

Note. df = degrees of freedom. RMSEA = root mean square error approximation. CFI = Comparative Fit Index. TLI = Tucker Lewis Index. $SRMR_w$ = standardized root mean square residual within-unit. $SRMR_b$ = standardized root mean square residual between-units. PA = positive affect. NA = negative affect. Factor structures tested were consistent at both the between- and within-unit levels (e.g., Model A specified one factor at the between-unit level and one factor at the within-unit level).
*$p < .05$.

Gosserand and Diefendorff (2005) supported this idea, showing that integrative display rules encompass guidelines to express positive emotions and suppress negative emotions. On the other hand, past work has also supported a two-factor model of integrative display rules (e.g., Brotheridge & Grandey, 2002; Diefendorff et al., 2005; Diefendorff et al., 2006; Schaubroeck & Jones, 2000). This perspective contends that while integrative display rules as a whole are aimed at promoting congenial interactions amongst individuals, there are two separate guidelines inherent in such rules that may vary independently. The first guideline recommends the display of positive emotions, and the second recommends the suppression of negative emotions (Diefendorff et al., 2006). Further, a three-factor model of integrative display rules suggests that not only do positive and negative display rules have different effects, but also that the type of positive emotion expressed is important. In particular, whereas display rules to express enthusiasm might vary in importance for certain nursing jobs (e.g., labor and delivery nurse vs. intensive care nurse), display rules to express empathetic emotions may be more likely to form the foundation of all nurses' relationships with patients and patient families (Theodosius, 2008) and thus warrant distinct examination.

To assess model fit, the chi-squared Goodness of Fit statistic, root mean square error approximation (RMSEA; Steiger, 1990), Comparative Fit Index (CFI; Bentler, 1990), Tucker Lewis Index (TLI; Tucker & Lewis, 1973), and standardized root mean square residual (SRMR; Bentler, 1990) were used. Hu and Bentler (1999) indicate that CFI and TLI values of .95 should be used as lower bounds of good fit, whereas an RMSEA value of .06 and an SRMR value of .08 should be used as upper bounds. The one-factor model fit the data well, ($\chi^2 = 234.58$, $df = 40$, $p < .05$; RMSEA = .08, TLI =

0.95, CFI = 0.96, $SRMR_{within}$ = 0.06, $SRMR_{between}$ = 0.79), but significantly worse ($\Delta\chi^2$ = 118.81, Δdf = 2, p < .001) than the two-factor model (χ^2 = 115.77, df = 38, p < .05; RMSEA = .05, TLI = 0.98, CFI = 0.99, $SRMR_{within}$ = 0.05, $SRMR_{between}$ = 0.44). The three factor model (χ^2 = 93.36, df = 34, p < .05; RMSEA = .05, TLI = 0.98, CFI = 0.99, $SRMR_{within}$ = 0.05, $SRMR_{between}$ = 0.58) fit the data well, and significantly better than the two-factor ($\Delta\chi^2$ = 22.41, Δdf = 4, p < .001) and one-factor ($\Delta\chi^2$ = 141.22, Δdf = 6, p < .001) models.

Though fit indices suggested the presence of three distinct rules for managing emotions at work, other reasons for retaining the three-factor model were also considered. In addition to the empirical support for the three-factor model (including fit indices and scale correlations supporting discriminant validity: empathetic and enthusiastic display rules r_{person} = .50, r_{unit} = .41; empathetic and negative display rules r_{person} = .54, r_{unit} = .61; enthusiastic and negative display rules r_{person} = .50, r_{unit} = .47), the three-factor model showed greater potential to contribute to the existing emotional labor literature in a conceptual sense. Past work had not yet identified a three-factor model of integrative display rules. In the nursing context, rules to "display positive emotions" may be too broad of a categorization to decipher the true mechanism of display rule effects. Given that the three-factor model of integrative display rules was supported by the present empirical results as well as theoretical suggestions from the nursing literature (e.g., Bolton, 2005; Theodosius, 2008), the three-factor model was retained in the present study All standardized factor loadings ranged from .74 to .89.

Display rules to express empathetic emotions were measured with three items (α = .77): "Reassure patients who are distressed or upset," "Remain calm even when feeling

astonished," and "Express feelings of sympathy (i.e., saying you 'understand' or you are sorry to hear about something)." Display rules to express enthusiastic emotions were measured with two items (α = .57): "Express friendly emotions (i.e., smiling, giving compliments, making small talk)," and "Act excited and enthusiastic in interactions with patients." Display rules to suppress negative emotions were measured with three items (α = .86): "Hide anger or disapproval about something someone has done (e.g., an act that is distasteful)," "Hide feelings of disgust," and "Remain calm when feeling upset or distressed." The lower internal consistency reliability for the enthusiasm scale likely was affected by the fact that the scale only contained two items.

Individual Display Rule Perceptions. Although individual perceptions of display rules are nested within units, aggregation statistics (i.e., ICC(1) values) suggested that none of the variance in individual perceptions of display rules was attributable to unit nesting (see Table 3). This result suggests that individual perceptions of display rules did not cluster together among nurses who shared a unit. Thus, CFA—as opposed to multilevel CFA—was conducted on the eight items measuring individual perceptions of display rules in Mplus version 6.1 (Muthén & Muthén, 1998-2011; see Table 4). The three models tested for unit display rules were also tested for individual perceptions of display rules. Analogous to display rules at the unit level, the one-factor ($\chi^2 = 792.79$, $df = 20$, $p < .05$; RMSEA = .23, TLI = 0.73, CFI =0.81, SRMR = 0.07) and two-factor ($\chi^2 = 448.42$, $df = 19$, $p < .05$; RMSEA = .18, TLI = 0.84, CFI = 0.89, SRMR = 0.08) models fit significantly worse (respectively, $\Delta\chi^2 = 406.22$, $\Delta df = 3$, $p < .001$; $\Delta\chi^2 = 61.85$, $\Delta df = 2$, $p < .001$) than the three-factor model ($\chi^2 = 386.57$, $df = 17$, $p < .05$; RMSEA = .17, TLI = 0.85, CFI = 0.91, SRMR = 0.07), though the three-factor model still did not fit well.

Table 3. Unit-level ICC(1) and ICC(2) values for study constructs.

	Unit-Level		Hospital-Level		% of Variance that is:		
Construct	ICC(1)	ICC(2)	ICC(1)	ICC(2)	Between Persons	Between Units	Between Hospitals
Unit empathy DRs	.00	.01	.00	.05	100%	0%	0%
Unit enthusiasm DRs	.05	.29	.01	.43	94%	5%	1%
Unit negative DRs	.03	.22	.02	.46	95%	3%	2%
Individual empathy DRs	.00	.02	.00	.00	100%	0%	0%
Individual enthusiasm DRs	.00	.13	.00	.20	100%	0%	0%
Individual negative DRs	.00	.00	.01	.38	99%	0%	1%
Patient load	.50	.87	.05	.00	45%	50%	5%
Patient acuity	.39	.82	.03	.39	58%	39%	3%
Task cohesion	.07	.38	.01	.42	92%	7%	1%
Social cohesion	.18	.63	.01	.34	81%	18%	1%
Patient high positive affect	.32	.78	.02	.41	66%	32%	2%
Patient low positive affect	.15	.58	.00	.16	85%	15%	0%
Patient high negative affect	.18	.63	.00	.25	82%	18%	0%
Patient low negative affect	.24	.70	.00	.14	76%	24%	0%
Surface acting	.00	.00	.00	.00	100%	0%	0%
Deep acting	.00	.01	.00	.12	100%	0%	0%
Showing genuine emotions	.00	.00	.00	.00	100%	0%	0%
Job satisfaction	.04	.26	.00	.00	96%	4%	0%
Burnout	.07	.39	.09	.67	84%	7%	9%
Physical symptoms	.01	.07	.00	.00	99%	1%	0%
Vitality	.01	.12	.00	.00	99%	1%	0%

Note. ICC(1) was calculated using values obtained from HLM version 7 (Raudenbush et al., 2010). ICC(1) values were derived by dividing the observed variance attributable to the unit (hospital) (i.e., tau) by the total variance (i.e., tau plus sigma) according to Hoffman (2007). ICC(2) values were obtained from HLM version 7 (Raudenbush et al., 2010). DRs = display rules.

Table 4. Results of CFA on person-level display rule perceptions scale.

Model	χ^2	*df*	RMSEA	TLI	CFI	SRMR
A. One-factor	792.79*	20	0.23	0.73	0.81	0.07
B. Two-factor (positive and negative)	448.42*	19	0.18	0.84	0.89	0.08
C. Three-factor (empathetic and enthusiastic separate)	386.57*	17	0.17	0.85	0.91	0.07
D. Three-factor with correlated uniquenesses	188.58*	16	0.12	0.92	0.96	0.04

Note. df = degrees of freedom. RMSEA = root mean square error approximation. CFI = Comparative Fit Index. TLI = Tucker Lewis Index. SRMR = standardized root mean square residual. In Model D, the error terms of two items on the negative display rules scale were permitted to correlate freely.

*$p < .05$.

***$p < .001$.

Based on modification indices, another three-factor model was run in which the error terms of two items on the negative display rules scale were permitted to correlate (i.e., "hide anger or disapproval about something someone has done [e.g., an act that is distasteful]" and "hide feelings of disgust"). Allowing residual error terms to freely correlate suggests that a common secondary influence on these two items exists. These two items share similar wording in that they both reflect the inclination to "hide" negative feelings. Therefore, allowing these terms to freely correlate made sense with the present data and represented the data more accurately. Model fit was improved by allowing the error terms of these two items to freely correlate ($\chi^2 = 188.58$, $df = 16$, $p < .05$; RMSEA = .12, TLI = 0.92, CFI = 0.96, SRMR = 0.04). Although performance of this model with regard to some indices (e.g., RMSEA, TLI) did not reach recommended standards (e.g., Hu & Bentler, 1999), examination of modification indices and factor loadings did not suggest any other avenues to improve model fit. Thus, the three-factor model with one set of error terms correlated represented the factor structure of individual display rule perceptions best.

Standardized factor loadings ranged from .70 to .90. Reliabilities were .81 for rules to display empathy, .66 for rules to display enthusiasm, and .86 for rules to hide negative emotions. The lower internal consistency reliability for the enthusiasm scale may have reflected the fact that the scale only contained two items. The scales were correlated as follows: empathetic and enthusiastic display rules $r = .56$; empathetic and negative display rules $r = .60$; enthusiastic and negative display rules $r = .46$. Collectively, the present results support the existence of three distinct display rules at both the individual and unit levels.

Confirmatory Factor Analysis of Patient Affect Items

The factor structure of the perceived patient affect measure was examined using multilevel CFA in Mplus version 6.1 (Muthén & Muthén, 1998-2011). Results revealed good fit for the a priori four-factor model (i.e., patient high positive affect, patient low positive affect, patient high negative affect, patient low negative affect; $\chi^2 = 519.68$, $df = 142$, $p < .05$; RMSEA = .06, TLI = 0.93, CFI = 0.94, $SRMR_{within} = 0.05$, $SRMR_{between} = 0.18$). Several alternative models were tested including two models with two factors each: (1) a model containing the factors of high-activation and low-activation emotions ($\chi^2 = 2162.72$, $df = 152$, $p < .05$; RMSEA = .14, TLI = 0.64, CFI = 0.70, $SRMR_{within} = 0.16$, $SRMR_{between} = 0.15$), and (2) a model containing the factors of patient positive affect and patient negative affect ($\chi^2 = 656.87$, $df = 152$, $p < .05$; RMSEA = .07, TLI = 0.91, CFI = 0.92, $SRMR_{within} = 0.08$, $SRMR_{between} = 0.21$). A three-factor model was also tested in which high and low negative patient affect were combined into one negative affect scale, while patient high positive affect and patient low positive affect were left separate ($\chi^2 = 533.84$, $df = 148$, $p < .05$; RMSEA = .06, TLI = 0.93, CFI = 0.94, $SRMR_{within} = 0.05$, $SRMR_{between} = 0.20$). All of the alternative models fit worse than the a priori model (high- and low-activation model: $\Delta\chi^2 = 1643.04$, $\Delta df = 10$, $p < .001$; positive and negative affect model: $\Delta\chi^2 = 137.19$, $\Delta df = 10$, $p < .001$), including the next-best-fitting three factor model in which high- and low-activation negative affect were combined ($\Delta\chi^2 = 14.16$, $\Delta df = 6$, $p = .03$).

Standardized factor loadings ranged from .60 to .86 in the a priori model. Unit-level correlations between the scales were: $r = .44$ between low positive affect and high positive affect, $r = -.33$ between high negative affect and high positive affect, $r = -.56$

between low positive affect and high negative affect, r = -.26 between low negative affect and high positive affect, r = -.47 between low positive affect and low negative affect, and r = .69 between low negative affect and high negative affect. Internal-consistency reliabilities were .73 for high positive affect, .82 for low positive affect, .73 for high negative affect, and .76 for low negative affect. Thus, the four-factor model (i.e., high-activation positive affect, low-activation positive affect, high-activation negative affect, low-activation negative affect) of patient affect was retained in the present study. The high correlation among the negative affect scales might suggest that these scales are not readily distinguished, which can lead to multicollinearity and can create difficulty in detecting significant effects in hypothesis tests. As such, nonsignificant effects in simultaneous analyses (in which all dimensions of patient affect are entered as predictors) will be followed up with analyses in which the negative affect dimensions are each tested as separate predictors.

Summary

Factor analysis results suggested the presence of three distinct display rule factors: rules to show friendliness and enthusiasm, rules to show empathy and compassion, and rules to hide negative emotional displays. The three-factor structure was supported for both person-referent and unit-referent display rules.

A four-factor structure of patient affect was supported. Patient affect can be meaningfully identified along two dimensions—activation and valence—resulting in four different categories of patient affect: high-activation positive affect, low-activation positive affect, high-activation negative affect, and low-activation negative affect.

Data Aggregation to the Unit Level

As shown in Table 3, 10 of the 11 constructs that were expected to exhibit unit-level properties did so. The range in ICC(1) values for these constructs was .03 to .50 (excluding empathetic display rules), and most ICC(1) values surpassed the .08 rule of thumb (i.e., Blacker, 2005). This result suggests that 3%-50% of the variance in individual scores on these measures was attributable to the nursing unit to which individuals belonged. However, display rules to express empathetic emotions did not vary by unit (*ICC(1)* = .00), though nurses within units exhibited strong agreement on this construct ($r_{wg(j)}$ = .90; see Table 5). Coupled with the finding that the overall sample mean on this scale was 4.49 on a 5-point response scale, these results suggested that nurses in our sample generally believed that they were required to "reassure patients who are distressed or upset," "remain calm even when feeling astonished," and "express feelings of sympathy," and that these requirements did not differ by unit. As such, 'unit-level empathy display rules' were excluded from analyses, under the assumption that evidence for such a construct was weak in, if not absent from, the present study. Hypothesized links with empathy display rules were tested by examining relationships to person-level empathy display rule perceptions when appropriate.

Table 3 shows that most unit-level ICC(2) values surpassed the minimum of .60 suggested by Glick (1985). Exceptions include the ICC(2) values for: display rules to express empathetic emotions (*ICC(2)* = .01), display rules to express enthusiastic emotions (*ICC(2)* = .29), display rules to suppress negative emotions (*ICC(2)* = .22), task cohesion (*ICC(2)* = .38), and patient low positive affect (*ICC(2)* = .58). These results indicate that units did not differ reliably from one another on these constructs, providing

Table 5. Means, standard deviations, mean $r_{wg(j)}$ values, and person- and unit-level Pearson correlations among study variables.

	Mean	SD	*Mean* $r_{wg(j)}$	1	2	3	4	5
1. Patient acuity	2.65	0.77	.72	-	-.11	-.30**	-.40**	.44**
2. Patient load	5.74	15.02	-	-.01	-	.19	.02	-.03
3. Patient high positive affect	2.66	0.66	.90	-.21**	.11**	*.73*	.44**	-.33**
4. Patient low positive affect	3.10	0.59	.91	-.25**	.08*	.40**	*.82*	-.75**
5. Patient high negative affect	3.22	0.51	.94	.22**	.04	-.30**	-.56**	*.73*
6. Patient low negative affect	3.27	0.58	.93	.22**	.06	-.23**	-.43**	.71**
7. Unit empathetic DRs	4.49	0.56	.90	.06	-.01	.00	-.02	.13**
8. Unit enthusiastic DRs	4.39	0.63	.83	-.01	.00	.17**	.16**	-.10**
9. Unit negative DRs	4.25	0.80	.80	.04	-.03	-.04	-.02	.09*
10. Unit empathetic DR strength	0.65	0.22	-	-	-	-	-	-
11. Unit enthusiastic DR strength	0.71	0.23	-	-	-	-	-	-
12. Unit negative DR strength	0.52	0.27	-	-	-	-	-	-
13. Task cohesion	2.86	0.50	.86	.05	-.01	.13**	.14**	-.17**
14. Social cohesion	2.67	0.56	.89	.10	-.05	.13**	.07	-.04
15. Unit tenure (years)	7.29	7.31	-	-.05	.04	.07	.02	.02
16. Empathetic DR perceptions	4.50	0.59	.90	.14**	.01	-.08*	-.12**	.14**
17. Enthusiastic DR perceptions	4.41	0.66	.83	.02	-.02	.08*	.04	-.06
18. Negative DR perceptions	4.24	0.84	.75	.06	-.01	-.09*	-.11**	.10**
19. Surface acting	2.95	0.81	.68	.04	-.02	-.18**	-.21**	.20**
20. Deep acting	2.90	0.92	.59	.05	.00	-.05	-.06	.12**
21. Showing genuine emotions	3.36	0.99	.45	.03	.02	.16**	.14**	-.09*
22. Job satisfaction	2.92	0.55	.85	-.09*	.01	.16**	.19**	-.22**
23. Burnout	3.29	1.04	.62	.17**	-.01	-.22**	-.24**	.26**
24. Physical symptoms	2.19	0.66	.83	.08*	-.01	-.09*	-.14**	.14**
25. Vitality	2.85	0.75	.62	-.06	.05	.18**	.17**	-.12**
26. Nursing quality	-0.02	0.46	-	-	-	-	-	-
27. Patient satisfaction	3.62	0.17	-	-	-	-	-	-

Note. Person-level correlations are below the diagonal. Unit-level correlations are above the diagonal. Internal-consistency reliabilities are italicized on the diagonal. $r_{wg(j)}$ could not be calculated for patient load because this item was open-ended. Out-of-range values (i.e., absolute values greater than 1) were excluded from $r_{wg(j)}$ calculations. DRs = display rules. SD = standard deviation.

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

Table 5. Means, standard deviations, mean $r_{wg(j)}$ values, and person- and unit-level Pearson correlations among study variables. (continued)

	6	7	8	9	10	11	12	13	14
1	.44**	.10	-.07	.07	-.14	.20	-.10	-.08	.29**
2	.05	.09	.02	.00	.06	.05	.14	.09	-.06
3	-.26*	.02	.24*	-.08	-.06	-.29*	.03	.21	.20
4	-.47**	-.09	.27*	-.04	.11	-.32**	.11	.13	-.02
5	.69**	.30**	-.25*	.10	-.28*	.28*	-.16	-.12	.08
6	*.76*	.30**	-.05	.12	-.31**	.02	-.12	.05	.02
7	.14**	*.77*	.41**	.61**	-.73**	-.24*	-.47**	.10	-.05
8	-.05	.50**	*.57*	.47**	-.32**	-.77**	-.39**	.07	.10
9	.09*	.54**	.50**	*.86*	-.32**	-.23**	-.68**	-.15	-.05
10	-	-	-	-	-	.40**	.54**	.15	.05
11	-	-	-	-	-	-	.38**	.14	.17
12	-	-	-	-	-	-	-	-.12	-.10
13	-.06	.02	.00	-.13**	-	-	-	*.70*	.41**
14	-.01	.03	.08*	-.06	-	-	-	.35**	*.85*
15	.02	-.02	-.01	.02	-	-	-	-.05	-.06
16	.14**	.48**	.31**	.42**	-	-	-	-.02	-.01
17	-.02	.31**	.55**	.32**	-	-	-	-.01	.03
18	.05	.33**	.28**	.56**	-	-	-	-.15**	-.06
19	.17**	.10**	.04	.24**	-	-	-	-.19**	-.04
20	.12**	.13**	.08*	.17**	-	-	-	-.06	.04
21	-.02	.01	.06	-.12**	-	-	-	.18**	.16**
22	-.10**	.03	.09**	-.10**	-	-	-	.50**	.26**
23	.17**	.05	-.01	.11**	-	-	-	-.35**	-.11**
24	.12**	.06	.05	.10**	-	-	-	-.17**	.00
25	-.09**	-.01	.03	-.07	-	-	-	.22**	.09*
26	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-

Note. Person-level correlations are below the diagonal. Unit-level correlations are above the diagonal. Internal-consistency reliabilities are italicized on the diagonal.
*$p < .05$. **$p < .01$.

Table 5. Means, standard deviations, mean $r_{wg(j)}$ values, and person- and unit-level Pearson correlations among study variables. (continued)

	15	16	17	18	19	20	21	22	23
1	-.17	.36**	.07	.17	-.03	.12	.12	-.19	.40**
2	-.04	.01	.08	.09	.06	.17	.01	.08	.05
3	.21	-.15	.22*	-.09	-.21	-.08	.21	.10	-.17
4	.06	-.20	.24*	-.18	-.20	-.19	.17	.08	-.18
5	-.07	.36**	-.24*	.13	.16	.22*	.01	-.07	.22
6	-.18	.36**	-.07	.14	.25*	.16	.01	.07	.11
7	-.12	.67**	.22*	.37**	.02	-.09	.07	.05	-.02
8	-.17	.20	.64**	.14	-.12	-.20	.18	.03	-.09
9	-.12	.53**	.34**	.64**	.15	.15	.02	-.16	.05
10	-.17	.53**	.20	.20	-.04	-.09	-.04	.10	-.09
11	-.25*	.05	.47**	-.03	-.14	-.22	.14	.14	-.21
12	-.21	-.53**	-.34**	-.64**	-.15	-.15	-.02	.16	-.05
13	.11	-.13	-.17	-.22	-.25*	-.23*	.20	.65**	-.51**
14	-.01	-.11	.01	-.22*	-.15	-.05	.34**	.31**	-.09
15	-	-.36**	-.36**	-.14	-.31**	-.18	-.08	.13	-.23*
16	-.09*	*.81*	.38**	.56**	.25*	.15	-.04	-.12	.15
17	-.09	.56**	*.66*	.22*	.03	.07	.07	-.30**	.21
18	-.06	.60**	.46**	*.86*	.32**	.12	-.09	-.18	.14
19	-.05	.20**	.11**	.29**	*.64*	.41**	-.21	-.20	.26*
20	-.08*	.17**	.15**	.19**	.44**	*.64*	-.03	-.38**	.36**
21	-.06	-.04	-.01	-.16**	-.37**	-.12**	-	.22*	-.10
22	-.01	-.08*	-.04	-.18**	-.26**	-.13**	.20**	*.75*	-.70**
23	-.06	.17**	.10**	.22**	.38**	.22**	-.17**	-.56**	*.93*
24	-.10**	.12**	.07*	.13**	.25**	.15**	-.08*	-.27**	.48**
25	.10**	-.08*	-.05	-.13**	-.20**	-.09*	.19**	.32**	-.46**
26	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-

Note. Person-level correlations are below the diagonal. Unit-level correlations are above the diagonal. Internal-consistency reliabilities are italicized on the diagonal.
*$p < .05$. **$p < .01$.

Table 5. Means, standard deviations, mean $r_{wg(j)}$ values, and person- and unit-level Pearson correlations among study variables. (continued)

	24	25	26	27
1	.34**	-.26*	-.46*	-.43*
2	.07	-.17	-.12	-.20
3	-.11	.15	-.05	.27
4	-.10	.07	.20	.35*
5	.12	.09	-.10	-.52**
6	.08	.13	-.33	-.14
7	-.06	.25*	.03	.06
8	.00	.02	-.12	.35*
9	.06	.02	.12	.14
10	-.02	.26*	.05	.33
11	-.06	.11	.15	.44*
12	-.06	-.02	.08	.15
13	-.23*	.25*	-.19	.45**
14	-.05	.05	-.27	.10
15	-.25*	.08	-.10	.36*
16	.18	.04	-.07	-.16
17	.27*	-.14	-.06	.29
18	.01	.06	.09	-.09
19	.26*	.00	.22	-.15
20	.25*	-.20	.15	.04
21	-.13	.23*	.03	.09
22	-.46**	.35**	-.25	.37*
23	.66**	-.42**	-.14	-.66**
24	*.77*	-.42**	-.16	-.43*
25	-.40**	*.83*	.23	.28
26	-	-	-	.09
27	-	-	-	-

Note. Person-level correlations are below the diagonal. Unit-level correlations are above the diagonal. Internal-consistency reliabilities are italicized on the diagonal.
*$p < .05$. **$p < .01$.

evidence that these constructs exist at the unit level is weaker. Lastly, $r_{wg(j)}$ values indicate within-unit agreement on each construct (see Table 5). The range of mean $r_{wg(j)}$ values on the proposed unit constructs in the present study was 0.72 to 0.94 (task cohesion, $r_{wg(j)}$ = .27-.96; social cohesion, $r_{wg(j)}$ = .22-.98; patient acuity, $r_{wg(j)}$ = .20-1.00; patient high-activation positive affect, $r_{wg(j)}$ = .74-.98; patient low-activation positive affect, $r_{wg(j)}$ = .67-.98; patient high-activation negative affect, $r_{wg(j)}$ = .74-.99; patient low-activation negative affect, $r_{wg(j)}$ = .65-.98; unit empathy display rules, $r_{wg(j)}$ = .44-1.00; unit enthusiasm display rules, $r_{wg(j)}$ = .04-1.00; unit negative display rules, $r_{wg(j)}$ = .30-1.00). In accordance with LeBreton and Senter (2008)'s suggestions, $r_{wg(j)}$ values can be interpreted in terms of the level of agreement with the following categories: "lack of agreement" = .00 to .30, "weak agreement" = .31 to .50, "moderate agreement" = .51 to .70, "strong agreement" = .71 to .90, and "very strong agreement" = .91 to 1.00. Thus, the mean $r_{wg(j)}$ values in the present study suggest the presence of strong to very strong within-unit agreement on these constructs. Collectively, these results support the decision to aggregate patient load, patient acuity, task cohesion, social cohesion, unit display rules to express enthusiastic emotions, unit display rules to suppress negative emotions, patient high-activation positive affect, patient low-activation positive affect, patient high-activation negative affect, and patient low-activation negative affect to the unit level.

Additionally, Table 3 shows that the effects of unit nesting are partially attributable to the fact that units are nested within hospitals. For example, 50% of the variance in individual responses to items regarding patient load was attributable to the fact that individuals are nested within units, whereas 5% of the variance in unit-level responses, or 2.5% (i.e., 5% x 50% = 2.5%) of the total variance was attributable to the

fact that units are nested within hospitals. Thus, both the hospital and the unit nesting factors have influences on lower-level responses and were modeled in analyses.

Descriptive Statistics

Means, standard deviations, reliabilities, and person- and unit-level correlations for all study variables can be found in Table 5.

Unit-level Correlations

Inspection of Table 5 suggests that many of the relationships among study variables are significant. For example, at the unit level, patient acuity was significantly correlated with all four types of patient affect. The sicker the patients, the more likely nurses perceived that patients display negative affect (unit-level correlations: $r_{hiNA} = .44$, $p < .01$; $r_{loNA} = .44$, $p < .01$) and the less likely nurses perceived that patients displayed positive affect (unit-level correlations: $r_{hiPA} = -.30$, $p < .01$; $r_{loPA} = -.40$, $p < .01$). Unit-level patient acuity (i.e., higher values reflecting sicker patients) was also positively related to the following constructs: social cohesion among nurses (unit-level $r = .29$, $p < .01$), nurse burnout (unit-level $r = .40$, $p < .01$), and nurse physical symptoms (unit-level $r = .34$, $p < .01$). Unit-level patient acuity also negatively covaried with unit-level nurse vitality ($r = -.26$, $p < .05$), unit-level patient satisfaction ($r = -.43$, $p < .05$), and unit-level nursing quality ($r = -.46$, $p < .05$).

Also at the unit level, nurse perceptions of patient affect were correlated with display rules. Display rules to express enthusiastic emotions were more likely on units where positive patient affect was prevalent (unit-level correlations, $r_{hiPA} = .24$, $p < .05$; $r_{loPA} = .27$, $p < .05$) and less likely on units where patients expressed more high negative

affect (unit-level r = -.25, p < .05). Display rules to suppress negative emotions were uncorrelated with patient affect at the unit level.

Other values of interest include the unit-level correlations among the display rule scales that target different referents (i.e., the self versus the unit). An evaluation of the intercorrelations among display rule scales across levels can facilitate support for, or detract, from the proposition that display rules with referents at different levels exhibit discriminant validity that would suggest they are independent constructs. Interestingly, the highest unit-level correlation among display rules scales of different referents was r = .67 (between unit and individual display rules [DRs] to express empathetic emotions when both were aggregated to the unit level), suggesting that less than half (44.9%) of the variance in a given DR scale is accounted for by its alternative-referent counterpart. The lowest correlation among display rules scales at the unit level was r = .14 (between unit enthusiastic DRs and individual DRs to suppress negative emotions when both were aggregated to the unit level), suggesting that at minimum, display rules constructs share 2% of their variance. This point supports the contention that these display rule measures assess different constructs and that unit-level display rules are more than just the sum of their person-level counterparts.

Other notable findings at the unit level include the relationships of patient satisfaction ratings with several constructs. Units with higher patient satisfaction ratings were also likely to have greater levels of the following: patient low positive affect (r_{loPA} = .35, p < .05), display rules to express enthusiastic emotions (r = .35, p < .05), task cohesion among unit nurses (r = .45, p < .01), nurses with longer tenures on the unit (r = .36, p < .05), and nurses with greater job satisfaction (r = .37, p < .05). On the other hand,

unit-level patient satisfaction was lower when patients showed high-activation negative affect (r = -.52, p < .01), nurse burnout was high (r = -.66, p < .01), and nurse physical symptoms were high (r = -.43, p < .05).

Individual-level Correlations

At the nurse level, one may recognize the large quantity of significant relationships that patient affect exhibited with other person-level variables. The only variable that was not significantly related to any of the patient affect dimensions at the nurse level was the amount of time nurses had been working on their unit (i.e., nurse tenure; r =.02-.07, *ns*). Nurse ratings of patient affect related significantly to their ratings of unit display rules, task cohesion, social cohesion, display rule perceptions, emotional labor strategies, and nurse well-being outcomes.

Individual-referent display rules at the individual level exhibited patterns of relationships that conformed to hypotheses. For example, perceptions of individual display rules to suppress negative emotions were positively related to effortful strategies for regulating emotions (i.e., surface acting, r = .29, p < .01; deep acting, r = .19, p < .01), negatively related to genuine emotional displays (r = -.16, p < .01), negatively related to well-being (job satisfaction, r = -.18, p < .01; vitality, r = -.13, p < .01), and positively related to ill-being (burnout, r = .22, p < .01; physical symptoms, r = .13, p < .01). Display rules to show enthusiastic emotions were positively related to surface acting (r = .11, p < .01) and deep acting (r = .15, p < .01), but unrelated to showing genuine emotions (r = -.01, *ns*). They were also positively related to ill-being (burnout, r = .10, p < .01; physical symptoms, r = .07, p < .05), but unrelated to well-being (job satisfaction, r = -.04, *ns*; vitality, r = -.05, *ns*). Display rules to show empathetic emotions were

positively related to both types of emotion regulation (surface acting, $r = .20$, $p < .01$; deep acting, $r = .17$, $p < .01$), but unrelated to showing genuine emotions ($r = -.04$, *ns*). Display rules to express empathetic emotions were also negatively related to well-being (job satisfaction, $r = -.08$, $p < .05$; vitality, $r = -.08$, $p < .05$), and positively related to ill-being (burnout, $r = .17$, $p < .01$; physical symptoms, $r = .12$, $p < .01$).

As expected, the emotion labor strategies of surface acting and showing authentic emotions were correlated with all well-being and ill-being outcomes in expected directions. Surface acting was negatively related to well-being (job satisfaction, $r = -.26$, $p < .01$; vitality, $r = -.20$, $p < .01$) and positively related to ill-being (burnout, $r = .38$, $p < .01$; physical symptoms, $r = .25$, $p < .01$). Showing genuine emotions was positively related to well-being (job satisfaction, $r = .20$, $p < .01$; vitality, $r = .19$, $p < .01$) and negatively related to ill-being (burnout, $r = -.17$, $p < .01$; physical symptoms, $r = -.08$, $p < .05$). Although not expected, deep acting was positively related to ill-being (burnout, $r = .22$, $p < .01$; physical symptoms, $r = .15$, $p < .01$) and negatively related to well-being (job satisfaction, $r = -.13$, $p < .01$; vitality, $r = -.09$, $p < .05$).

Unexpectedly, nurse ratings of task cohesion showed significant associations with many study variables at the individual level. Task cohesion was positively related to social cohesion ($r = .35$, $p < .01$), showing authentic emotions ($r = .18$, $p < .01$), job satisfaction ($r = .50$, $p < .01$), and vitality ($r = .22$, $p < .01$), and negatively related to perceptions of rules to hide negative emotions (individual-referent; $r = -.15$, $p < .01$), managing emotions by surface acting ($r = -.19$, $p < .01$), and experiencing burnout ($r = -.35$, $p < .01$) and physical symptoms ($r = -.17$, $p < .01$). Social cohesion also demonstrated interesting relationships at the nurse level, as it was positively related to

showing genuine emotions (r = .16, p < .01), job satisfaction (r = .26, p < .01), and vitality (r = .09, p < .05), and negatively related to burnout (r = -.11, p < .01). Further, nurses with greater tenure on their unit were less likely to deep act (r = -.08, p < .05), perceive display rules as mandating the expression of empathetic emotions (r = -.09, p < .05), and experience physical symptoms (r = -.10, p < .01), but more likely to experience vitality (r = .10, p < .01).

Tests of the Hypothesized Model

Antecedents of Display Rules and Display Rule Strength

Hypotheses 1-7 proposed relations among various unit-level constructs. As such, these hypotheses were tested in HLM (v. 7.0, Raudenbush et al., 2010) using bivariate tests with unit-level variables entered at Level 1 and the hospital-level nesting factor modeled at Level 2. Patient load, patient acuity, patient high positive affect, patient low positive affect, patient high negative affect, and patient low negative affect were entered as separate (hospital-centered) predictors of each unit-level display rule variable (with the exception of unit-level display rules to show empathy, which did not exhibit unit-level properties; see Table 3). Results are presented in Table 6. In cases where unit-level empathy display rules were hypothesized to be a consequence of other variables (e.g., patient acuity), these hypotheses were tested to person-level empathy display rules. None of the predictors significantly predicted unit display rules when entered in a simultaneous model (i.e., hospital-centered patient load, patient acuity, patient high positive affect, patient low positive affect, patient high negative affect, and patient low negative affect to unit enthusiasm [pseudo-R^2 = .05] and unit negative [pseudo-R^2 = .08] display rules).

Table 6. Tests of Hypotheses 1-6 and exploratory analyses at the unit level in HLM.

	γ	*pseudo-R^2*
DV: Unit DRs to display enthusiasm		
H1a: Patient acuity	-0.07	0.01
H2: Patient load	0.00	0.01
H3a: Patient high-activation positive affect	0.16†	0.04
H4a: Patient low-activation positive affect	0.22*	0.07
H5a: Patient high-activation negative affect	-0.23*	0.06
H6a: Patient low-activation negative affect	-0.09	0.00
Task cohesion	0.08	0.00
Social cohesion	0.17	0.02
Unit tenure	-0.01	0.02
DV: Unit DRs to hide negative emotions		
H1b: Patient acuity	0.11	0.01
Patient load	0.00	0.00
H3b: Patient high-activation positive affect	-0.17	0.03
H4b: Patient low-activation positive affect	-0.18	0.01
H5b: Patient high-activation negative affect	0.34*	0.08
H6b: Patient low-activation negative affect	0.25*	0.06
Task cohesion	-0.31*	0.04
Social cohesion	-0.11	0.00
Unit tenure	-0.01	0.00

Note. The relationship between patient load and display rules to hide negative emotions was not hypothesized. The relationships of task cohesion, social cohesion, and unit tenure to dependent variables were not hypothesized, but were included as exploratory analyses. Pseudo-R^2 values were calculated using the formula provided by Kreft and de Leeuw (1998) and Singer (1998). DRs = display rules; they represent the proportion of unit-level variance accounted for by the predictor. H = hypothesis. DV = dependent variable. Level 1 n = 73. Level 2 n = 9.
†$p < .10$. *$p < .05$. **$p < .01$. *** $p < .001$.

Hypotheses 1a and 1b proposed that unit-level patient acuity is positively related to display rules to express positive emotions and suppress negative emotions, respectively. These hypotheses were not supported at the unit level in HLM (1a, enthusiasm DRs, γ = -0.07, t = -1.06, p = .29; 1b, negative DRs, γ = 0.10, t = 1.35, p = .18), as none of the integrative display rule dimensions were predicted by patient acuity (see Table 6). However, patient acuity did predict nurse perceptions of rules to display empathy at the person level (γ = 0.15, t = 3.07, p < .01). Nurses believe they should display more empathy if they work on a unit in which patients are sicker.

Hypothesis 2 stated that unit-level patient load is negatively related to unit-level display rules to express positive emotions. Results indicate that this hypothesis was not supported for unit-level enthusiasm DRs (γ = 0.00, t = 0.86, p = .39) or person-level empathy DRs (γ = 0.00, t = -0.07, p = .95). Thus, 'busyness' at the unit level was not related to positive display rules.

Hypotheses 3-6 proposed links between unit-level patient affect (as perceived by nurses) and unit-level display rules; specifically, Hypotheses 3 and 4 posit that high and low-activation positive affect (respectively) in patients would be positively related to display rules to (a) express positive emotions and (b) suppress negative emotions at the unit level. Results indicate that Hypothesis 3a for high-activation positive affect in patients was marginally supported for enthusiasm DRs in HLM at the unit level (γ = 0.16, t = 1.86, p = .07) and unsupported for perceptions of empathy DRs (γ = -0.10, t = -1.64, p = .11). Hypothesis 3b was not supported for negative DRs (γ = -0.17, t = -1.62, p = .11,). Hypothesis 4a for low-activation positive affect in patients was supported for enthusiasm display rules (γ = 0.22, t = 2.30, p = .03, *pseudo-*R^2 = .07) accounting for 7% of the unit-

level variance in rules mandating the expression of enthusiasm. Patient low-activation positive affect was negatively related to person-level empathy display rules (γ = -0.22, t = -2.70, p < .01), opposite of expectations. Units with patients displaying low-activation positive affect to a greater extent were more likely to foster expectations for nurses to display enthusiastic emotions and less likely to demand empathy displays of nurses. When patients are feeling relaxed and at ease, they are less likely to need nurses to remain calm, reassure them, and express feelings of sympathy. Hypothesis 4b for low-activation positive affect in patients was not supported (negative DRs, γ = -0.18, t = -1.43, p = .16).

Additionally, patient high-activation negative affect was expected to be negatively related to display rules to express positive emotion (H5a) but positively related to display rules to suppress negative emotion (H5b). Hypothesis 5a was supported for enthusiasm display rules at the unit level (γ = -0.23, t = -2.15, p = .04 *pseudo-*R^2 = .06), accounting for 6% of the within-unit variance and suggesting that at the unit level, nurses were expected to be less enthusiastic and friendly toward patients who were angry, tense, anxious, or frustrated. Patient high-activation negative affect was positively related to person-level perceptions of empathy display rules (γ = 0.33, t = 3.58, p < .001), opposite of expectations and accounting for 80% of the between-unit variance (i.e., less than 1% of the total variance; see Table 3). When patients are angry, tense, or frustrated, nurses are expected to reassure them, remain calm, and express feelings of sympathy.

Results indicated support for Hypothesis 5b as patient high-activation negative affect was positively related to display rules to suppress negative emotions (γ = 0.34, t = 2.60, p = .01, *pseudo-*R^2 = .08) and accounted for 8% of the unit-level variance. Nurses

were expected to hide negative feelings in response to patients who were angry, tense, anxious, or frustrated.

Patient low-activation negative affect (i.e., depressed, fatigued, worried, sad) was expected to be positively related to display rules to express positive emotions (H6a) and suppress negative emotions (H6b). Hypothesis 6a was not supported for enthusiasm display rules (γ = -0.09, t = -0.90, p = .37) but was supported for person-level empathy display rules (γ = 0.23, t = 3.15, p < .01), accounting for 90% of the between-unit variance (i.e., less than 1% of the total variance; see Table 3). Nurses are more likely to feel compelled to reassure patients, remain calm, and express feelings of sympathy when interacting with patients who are depressed, fatigued, worried, or sad. Hypothesis 6b was supported (negative DRs, γ = 0.25, t = 2.21, p = .03, *pseudo*-R^2 = .06), as patient low-activation negative affect accounted for 6% of the within-unit variance in unit-level display rules for nurses to suppress negative emotions. Unit-wide expectations entail that nurses suppress negative feelings when interacting with depressed, fatigued, worried, or sad patients. Collectively, these results indicate that the typical levels of patient affect on a unit influences the display rules adopted on that unit.

Exploratory analyses involving task cohesion, social cohesion, and unit tenure as antecedents of unit display rules are also included in Table 6. In most cases, the effects of these variables on unit display rules were nonsignificant. However, task cohesion was found to be negatively related to display rules to suppress negative emotions (γ = -0.31, t = -2.05, p = .04, *pseudo*-R^2 = .04), suggesting that the less unit members perceived agreement on how to perform tasks, the more likely unit members were to perceive requirements to suppress negative emotions.

Hypothesis 7 proposed that unit-level (a) task cohesion, (b) social cohesion, and (c) unit tenure were positively related to the strength of display rule perceptions in units. As discussed in the Method section, display rule strength was operationalized as the inverse of each unit's standard deviation on display rules. Thus, these hypotheses were tested using equations in which unit-level task cohesion, social cohesion, and unit tenure were entered as simultaneous predictors of the standard deviation of each facet of integrative display rules[1] (see Table 7). Hypothesis 7, pertaining to enthusiasm display rule strength, was not supported (*pseudo-*R^2 = .11) as task cohesion (7a, γ = 0.17, t = 1.52, p = .13) and social cohesion (7b, γ = 0.11, t = 1.22, p = .23) were unrelated to enthusiasm display rule strength, and unit tenure (7c, γ = -0.02, t = -2.32, p = .02) was associated with *weaker* enthusiasm display rule strength. The longer unit members had worked on the unit, the less likely they were to agree on how much displays of enthusiasm were required, opposite of predictions. Hypothesis 7 to negative display rules was also unsupported with *pseudo-*R^2 = .04 for the full model and the following coefficients for specific predictors: H7a, task cohesion, γ = -0.28, t = -1.98, p = .05; H7b, social cohesion, γ = 0.08, t = 0.65, p = .52; H7c: unit tenure, γ = -0.01, t = -0.89, p = .38. Task cohesion was marginally associated with weaker negative display rule strength.

It is worth noting that unit response rate and number of unit respondents were not factors in determining display rule strength. For example, unit response rate was unrelated to the empathetic display rule strength (r = -.07, *ns*), enthusiastic display rule strength (r = .08, *ns*), and negative display rule strength (r = -.16, *ns*). Number of unit respondents was also unrelated to the unit strength of empathetic display rules (r = -.05, *ns*), enthusiastic display rules (r = -.12, *ns*), and negative display rules (r = -.12, *ns*).

Table 7. Tests of Hypotheses 7a-c and exploratory analyses at the unit level in HLM.

	Dependent Variable	
	Enthusiastic DR Strength	Negative DR Strength
Predictors	*γ*	*γ*
Hypothesized Model		
H7a: Task cohesion	0.17	-0.28
H7b: Social cohesion	0.11	0.08
H7c: Unit tenure	-0.02*	-0.01
pseudo-R^2	0.11	0.04
Exploratory Model		
Patient acuity	-0.02	0.07
Patient load	-0.00	-0.00
Patient high positive affect	0.11	0.01
Patient low positive affect	0.23*	-0.09
Patient high negative affect	-0.03	0.13
Patient low negative affect	0.11	0.05
pseudo-R^2	0.15	0.07

Note. DR = display rule. Pseudo-R^2 values were calculated using the formula provided by Kreft and de Leeuw (1998) and Singer (1998). Level 1 n = 73. Level 2 n = 9.
*$p < .05$.

Thus, the number and proportion of unit members responding were not related to display rule strength.

Although exploratory analyses showed many nonsignificant relationships between unit-level constructs and display rule strength (see Table 7), patient low-activation positive affect was positively related to enthusiasm display rule strength (γ = 0.24, t = 2.06, p = .04). Hence, when patients on a unit were more likely to display low positive affect (i.e., at ease, calm, and relaxed), unit members were in greater agreement on the extent to which displays of enthusiasm and friendliness were required.

Person-Level Model

Hypotheses 8-11 and the person-level links in Figure 1 that were replications of past emotional labor research were tested in HLM version 7 (Raudenbush et al., 2010). Individual-level predictors were unit-mean centered at Level 1, unit-level predictors were hospital-mean centered at Level 2, and hospital nesting was modeled at Level 3.

Hypotheses 8 and 9 proposed that unit-level display rules were positively related to their individual-level counterparts. Hypothesis 8 (see Table 8; enthusiasm DRs, γ = 0.49, t = 3.95, p < .001, *pseudo-*R^2 = .03) and Hypothesis 9 (negative DRs, γ = 0.63, t = 5.06, p < .001, *pseudo-*R^2 = .03) were supported, as each type of unit-level display rule was positively related to its respective display rule perception at the person level. Additionally, Hypotheses 10 and 11 proposed that these relationships are moderated by unit-level display rule strength. Results indicated that these interaction terms were not related to individual-level display rules, failing to support Hypothesis 10 (enthusiasmDRs*strength, γ = -0.50, t = -1.22, p = .23, *pseudo-*R^2 = .03) and Hypothesis 11 (negativeDRs*strength, γ = 0.02, t = 0.04, p = .97, *pseudo-*R^2 = .03).

Table 8. Tests of Hypotheses 8-11 and exploratory analyses to person-level outcomes in HLM.

	Dependent Variable		
	Individual Empathy DRs	Individual Enthusiasm DRs	Individual Negative DRs
	γ	γ	γ
Hypothesis 8-9			
Unit enthusiasm DRs		0.49***	
pseudo-R^2		0.03	
Unit negative DRs			0.63***
pseudo-R^2			0.03
Hypothesis 10-11			
Unit enthusiasm DRs		0.40*	
Unit enthusiasm DR strength		0.02	
Mean*strength		-0.50	
pseudo-R^2		0.03	
Unit negative DRs			0.51**
Unit negative DR strength			-0.01
Mean*strength			0.02
pseudo-R^2			0.03
Exploratory Analyses			
Patient acuity	0.11	0.03	0.09
Patient load	0.00	0.00	0.00
Patient high positive affect	0.03	0.12	0.11
Patient low positive affect	0.06	0.05	-0.10
Patient high negative affect	0.25	-0.26	0.11
Patient low negative affect	0.05	0.19	0.14
pseudo-R^2	0.02	0.01	0.01

Note. DR = display rule. Dependent variables were person-level variables entered at Level 1. Independent variables were unit-level variables entered at Level 2. No predictors were entered at the hospital level, Level 3. Level 1 $n = 701$. Level 2 $n = 73$. Level 3 $n = 9$. Pseudo-R^2 values were calculated using the formula provided by Kreft and de Leeuw (1998) and Singer (1998).
*$p < .05$. **$p < .01$.

In addition to the tests of Hypotheses 1-6 to person-level empathy display rules, the unit-level variables of patient demand (i.e., patient acuity and patient load) and patient affect were tested as simultaneous predictors of individual-level perceptions of enthusiasm and negative display rules. Even though one focus of the present study was to identify antecedents of unit-level display rules, it is possible that the contextual variables examined are also antecedents of person-level display rules. None of these links were significant in the full model (see Table 8). However, when each variable was tested as the sole predictor of nurse display rule perceptions in HLM, significant relationships emerged. Unit-level patient high-activation positive affect was positively related to nurse perceptions of rules to display enthusiasm ($\gamma = 0.17$, $t = 2.55$, $p = .01$), mirroring results for unit-level enthusiasm display rules. Unit-level patient low-activation positive affect and positively related to nurse perceptions of rules to display enthusiasm ($\gamma = 0.19$, $t = 2.03$, $p = .047$), consistent with unit-level enthusiasm display rules. Unit-level patient high-activation negative affect was negatively related to nurse perceptions of rules to display enthusiasm ($\gamma = -0.22$, $t = -2.09$, $p = .04$). The relations of patient negative affect with nurse perceptions of enthusiasm display rules were consistent with findings for display rules at the unit level. However, patient negative affect was unrelated to nurse perceptions of negative display rules, contradicting the significant results for unit-level negative display rules and suggesting the possible presence of emergent effects. Emergent effects indicate that the nature of relationships between variables and other constructs differs depending on the level at which the relationship is examined (Bliese et al., 2007). The present findings indicate that relationships between patient affect and display rules could be emergent in nature, which would entail that the level of analysis is

an important consideration for researchers when drawing conclusions about the relationships between constructs and display rules.

Although the links between individual display rule perceptions (with the self as referent), emotional labor strategies, and nurse well-being were not hypothesized in the present study, tests of these relationships are presented below in an attempt to replicate and draw comparisons to the extant literature. Display rules to express positive emotions were expected to be positively related to deep acting, whereas display rules to hide negative emotions were expected to be positively related to surface acting and negatively related to showing genuine emotions based on past work documenting such a pattern of effects (e.g., Bono & Vey, 2005; Diefendorff et al., 2005; Goldberg & Grandey, 2007; Trougakos et al., 2011). These predictions were tested by entering all three facets of integrative display rules as simultaneous predictors of each respective emotional labor strategy; results were partially supportive in the present data (see Table 9).

Specifically, individual-level perceptions of display rules to suppress negative emotions were positively related to surface acting ($\gamma = 0.24$, $t = 4.68$, $p < .001$) and deep acting ($\gamma = 0.13$, $t = 2.27$, $p = .02$) and negatively related to the expression of genuine emotions ($\gamma = -0.30$, $t = -4.70$, $p < .001$). Individual display rule perceptions to show empathy and enthusiasm were unrelated to surface acting (empathy DRs, $\gamma = 0.03$, $t = 0.41$, $p = .68$; enthusiasm DRs, $\gamma = 0.03$, $t = 0.45$, $p = .65$), deep acting (empathy DRs, $\gamma = 0.14$, $t = 1.61$, $p = .11$; enthusiasm DRs, $\gamma = 0.04$, $t = 0.50$, $p = .62$), and expressing genuine emotions (empathy DRs, $\gamma = 0.13$, $t = 1.38$, $p = .17$; enthusiasm DRs, $\gamma = 0.08$, $t = 0.98$, $p = .33$), though several of these relationships reached significance in correlational analyses. One might speculate that multicollinearity among the three facets

Table 9. Analyses of relationships to person-level emotion regulation in HLM.

	Dependent Variable		
	Surface Acting	Deep Acting	Showing Genuine Emotions
	γ	γ	γ
Total within-unit variance in DV	100%	100%	100%
Total between-unit variance in DV	0%	0%	0%
Predictors			
Person empathy DRs	0.03	0.14	0.13
Person enthusiasm DRs	0.03	0.04	0.08
Person negative DRs	0.24***	0.13*	-0.30***
Within-unit variance accounted for	10%	5%	3%
Person empathy DRs	0.04	0.13	0.13
Person enthusiasm DRs	-0.01	0.08	0.03
Person negative DRs	0.26***	0.12*	-0.26***
Unit enthusiasm DRs	-0.13	-0.25	0.22
Unit negative DRs	0.04	0.08	0.03
Within-unit variance accounted for	11%	5%	3%
Between-unit variance accounted for	67%	13%	7%
Patient acuity	-0.06	0.10	0.18
Patient load	0.00	0.01	0.00
Patient high positive affect	-0.01	0.06	0.10
Patient low positive affect	-0.11	0.02	0.36
Patient high negative affect	-0.06	0.34	0.42
Patient low negative affect	0.26	-0.04	-0.24
Within-unit variance accounted for	1%	1%	1%

Note. DR = display rule. Variance accounted for was calculated using the formula provided by Kreft and de Leeuw (1998) and Singer (1998). Level 1 n = 701. Level 2 n = 73. Level 3 n = 9.
*p < .05. ***p < .001.

of display rules contributed to the nonsignificant findings for empathy display rules and enthusiasm display rules. Indeed, when entered as the only predictor, empathy display rule perceptions positively predicted surface acting (γ = 0.25, t = 4.76, p < .001), and deep acting (γ = 0.29, t = 4.68, p < .001), but not showing genuine emotions (γ = -0.07, t = -1.03, p = .31); enthusiasm display rules predicted surface acting (γ = 0.17, t = 3.46, p < .001) and deep acting (γ = 0.21, t = 2.82, p = .01), but not showing genuine emotions (γ = -0.05, t = -0.88, p = .38). Greater amounts of surface acting and deep acting are found among nurses who perceive display rules to express enthusiasm or empathy (but the effects become nonsignificant when tested in simultaneous analysis). Effects from person-level display rules to emotion regulation strategies were unchanged when unit-level display rules were entered into the model (see the middle section of Table 9) and all predictors were grand-mean centered to evaluate incremental prediction (Enders & Tofighi, 2007). Thus, person-level display rule perceptions are clear predictors of person-level emotion regulation.

Additionally, the links of other unit-level variables (i.e., patient load, acuity, and affect) to person-level emotion regulation were nonsignificant. Unit-level attributes such as the typical level of illness of patients, number of patients for which units are responsible, and affect displayed by patients are unrelated to the extent to which nurses engage in effortful or non-effortful emotion regulation. Although correlations from patient load and acuity to emotion regulation variables were nonsignificant, the bivariate relationships from patient affect to emotion regulation suggested multicollinearity among these variables may have contributed to null findings. When each patient affect variable was entered as an independent predictor of emotion regulation strategies, one significant

relationship emerged. Patient low-activation negative affect was positively related to surface acting ($\gamma = 0.26$, $t = 2.52$, $p = .01$), suggesting that nurses fake their emotional displays to a greater extent when they work on a unit with patients who are depressed, fatigued, worried or sad. No other patient affect variables were related to the different ways in which nurses manage their emotions on the job.

In turn, the emotional labor strategies of surface acting and showing genuine emotions were expected to be related to nurse well-being and ill-being. These predictions were tested by entering the three emotional labor strategies (surface acting, deep acting, and showing genuine emotions) as simultaneous predictors of each respective well-being or ill-being indicator (see Table 10).

Results for job satisfaction and vitality supported predictions, as surface acting was negatively related to job satisfaction ($\gamma = -0.17$, $t = -5.13$, $p < .001$) and vitality ($\gamma = -0.15$, $t = -3.23$, $p < .01$), and showing genuine emotions was positively related to job satisfaction ($\gamma = 0.06$, $t = 2.60$, $p = .01$) and vitality ($\gamma = 0.10$, $t = 2.81$, $p < .01$). Results for the relationships between surface acting and ill-being supported predictions, as surface acting was positively related to burnout ($\gamma = 0.42$, $t = 7.13$, $p < .001$) and physical symptoms ($\gamma = 0.22$, $t = 5.23$, $p < .001$). Failing to support predictions, however, showing genuine emotions was unrelated to burnout ($\gamma = -0.07$, $t = -1.52$, $p = .13$; $r = -.17$, $p < .01$) and physical symptoms ($\gamma = 0.01$, $t = 0.36$, $p = .72$; $r = -.08$, $p < .05$) in HLM analyses. These relationships were significant and in the expected direction in correlational analyses, suggesting that multicollinearity may have interfered with the ability to detect significant effects of showing genuine emotions in simultaneous models. Supporting this supposition, showing genuine emotions was significantly related to both burnout ($\gamma = -$

Table 10. Analyses of relationships to nurse-level well-being in HLM.

	Dependent Variable			
	Job Satisfaction	Vitality	Burnout	Physical Symptoms
	γ	γ	γ	γ
Total within-unit variance in DV	96%	99%	84%	99%
Total between-unit variance in DV	4%	1%	7%	1%
Predictors				
Surface acting	-0.17***	-0.15***	0.42***	0.22***
Deep acting	-0.02	-0.01	0.08	0.03
Showing genuine emotions	0.06*	0.10**	-0.07	0.01
Within-unit variance accounted for by predictors	10%	6%	16%	7%
Surface acting	-0.16***	-0.14**	0.39***	0.21***
Deep acting	-0.01	0.00	0.07	0.02
Showing genuine emotions	0.05*	0.09**	-0.06	0.01
Person empathy DRs	0.01	-0.07	0.14	0.06
Person enthusiasm DRs	0.04	0.04	-0.08	-0.03
Person negative DRs	-0.10**	-0.05	0.12*	0.02
Within-unit variance accounted for by predictors	13%	7%	18%	7%
Surface acting	-0.13***	-0.14**	0.37***	0.20***
Deep acting	-0.02	0.00	0.08	0.04
Showing genuine emotions	0.05*	0.09**	-0.05	0.02
Person empathy DRs	0.03	-0.05	0.11	0.08
Person enthusiasm DRs	0.03	0.03	-0.05	-0.03
Person negative DRs	-0.11***	-0.06	0.13*	0.02
Unit enthusiasm DRs	0.00	-0.21	0.10	0.14
Unit negative DRs	-0.03	0.11	-0.10	-0.12
Within-unit variance accounted for by predictors	13%	6%	19%	7%
Between-unit variance accounted for by predictors	0%	55%	0%	70%
Patient acuity	0.02	-0.14	0.32*	0.00
Patient load	0.00	-0.01*	0.00	0.17*
Patient high positive affect	0.02	0.20*	-0.24	-0.03
Patient low positive affect	0.07	0.06	-0.03	0.11
Patient high negative affect	-0.09	0.34	-0.15	0.14
Patient low negative affect	0.13	0.08	-0.17	-0.05
Between-unit variance accounted for by predictors	9%	90%	46%	69%

Note. DR = display rule. DV = dependent variable. Level 1 n = 701. Level 2 n = 73. Level 3 n = 9. Variance accounted for was calculated using the formula provided by Kreft and de Leeuw (1998) and Singer (1998).
*p < .05. ***p < .001.

0.20, t = -4.99, p < .001) and physical symptoms (γ = -0.06, t = -2.15, p = .03) when entered as the sole predictor of these outcomes. Though not predicted, deep acting was also related to well- and ill-being constructs in correlational analyses. In HLM analyses in which deep acting was the sole predictor, it was negatively related to job satisfaction (γ = -0.08, t = -3.44, p < .001) and vitality (γ = -0.08, t = -2.49, p = .01) and positively related to burnout (γ = 0.24, t = 5.54, p < .001) and physical symptoms (γ = 0.11, t = 3.98, p < .001). These findings indicate that deep acting does, in fact, relate negatively to well-being and positively to ill-being, contrary to a lack of support for relationships between deep acting and well-being in the literature.

Although not predicted, the links of display rules to well-being and ill-being above and beyond the effects of emotion regulation strategies were tested (see Table 10). Person-level rules to hide negative emotions added incrementally to the prediction of job satisfaction (γ = -0.10, t = -3.04, p < .01) and burnout (γ = 0.12, t = 2.00, p = .046). Interestingly, all person-level emotion regulation effects remained significant when individual-level display rules were added as predictors, suggesting that emotion regulation and display rules each play unique roles in affecting nurse well-being outcomes.

The links of patient demand and patient affect to nurse-level outcomes were also tested in an effort to determine whether these contextual variables are important contributors to laborer well-being. Results are presented in Table 10. Although none of the unit-level variables predicted job satisfaction, patient load negatively predicted nurses' vitality (γ = -0.01, t = -2.44, p = .02), whereas patient high-activation positive affect positively predicted nurse vitality (γ = 0.20, t = 2.04, p = .047). Additionally,

patient acuity was positively related to nurse burnout ($\gamma = 0.32$, $t = 2.41$, $p = .02$) and nurse physical symptoms ($\gamma = 0.17$, $t = 2.24$, $p = .03$). Thus, patient qualities directly impact nurse well-being and ill-being.

Links to Unit-Level Patient Outcomes

In order to test the links between unit-level display rules and patient outcomes, unit-level predictors were hospital-mean-centered at Level 1 and hospital nesting effects were modeled at Level 2. This procedure was necessary given that HLM does not allow for the prediction of Level 2 outcomes from Level 1 predictors and given that data on nursing quality and patient satisfaction were provided at the unit level only. Hypotheses 12 and 13 propose that unit-level integrative display rules to express positive emotions and suppress negative emotions, respectively, are positively related to unit-level nursing quality indicators and patient satisfaction. These hypotheses could only be tested on a subset of units for which data on nursing quality indicators ($n = 29$ units) and patient satisfaction ($n = 32$ units) were available. To test Hypotheses 12 and 13, all facets of unit-level integrative display rules were entered as simultaneous predictors of each respective outcome (see Table 11).

Results partially supported Hypothesis 12, as patient satisfaction (*pseudo*-R^2 = .13) was marginally related to display rules to express enthusiasm ($\gamma = 0.31$, $t = 1.98$, $p = .05$). Enthusiasm display rules were unrelated to nursing quality ($\gamma = -0.99$, $t = -1.47$, $p = .15$), failing to support Hypothesis 12 (*pseudo*-$R^2 = .05$). However, the relationship between display rules to express enthusiasm and patient satisfaction was significant in correlational analyses ($r = .35$, $p < .05$) and HLM analyses when it was entered as the sole predictor ($\gamma = 0.32$, $t = 2.44$, $p = .02$, *pseudo*-$R^2 = .17$), suggesting that units with

Table 11. Analyses of relationships between unit-level display rules and patient outcomes (H12-H15) at the unit level in HLM.

	Dependent Variable	
	Patient Satisfaction	Nursing Quality
	γ	γ
Predictors		
Unit enthusiasm DRs	0.31†	-0.99
Unit negative DRs	0.02	0.58
pseudo-R^2	0.13	0.05
Unit enthusiasm DRs	0.23	-0.28
Person enthusiasm DRs	0.18	0.19
pseudo-R^2	0.19	0.00
Unit negative DRs	0.29**	0.26
Person negative DRs	-0.26*	-0.08
pseudo-R^2	0.20	0.00
Unit enthusiasm DRs strength	0.28	0.10
Mean*strength	0.74	3.77
pseudo-R^2	0.19	0.00
Unit negative DRs	0.10	-0.02
Unit negative DRs strength	0.03	0.25
Mean*strength	0.18	0.96
pseudo-R^2	0.00	0.00

Note. H = hypothesis. DRs = display rules. SD = standard deviation. All effects were nonsignificant at $p < .05$. Pseudo-R^2 values were calculated using the formula provided by Kreft and de Leeuw (1998) and Singer (1998). Level 1 $n = 73$. Level 2 $n = 9$.
*$p < .05$. ** $p < .01$. $^{\dagger}p < .10$.

stronger requirements to display friendliness are more likely to have patients who are satisfied with their hospital stay. Hypothesis 13, for negative display rules, was unsupported for patient satisfaction (γ = 0.02, t = 0.23, p = .82) and nursing quality (γ = 0.58, t = 1.66, p = .10).

As mentioned in Chapter II, I proposed that the direct and indirect relationships from unit-referent display rules to patient outcomes would bear opposite signs. If this assertion is supported, it would mean that person-referent display rules operate as suppressors of the relationship between unit-referent display rules and patient outcomes, and thus must be included in tests of this direct relationship to detect a significant effect. As shown in Table 11, the relationship between unit enthusiasm display rules and patient satisfaction did not become significant (γ = 0.23, t = 1.59, p = .12) when person-referent enthusiasm display rules (γ = 0.18, t = 1.30, p = .20) were added to the model. This result was repeated for the dependent variable of nursing quality; unit-referent (γ =- 0.28, t = -0.51, p = .61) and person-referent (γ = 0.19, t = 0.41, p = .68) enthusiasm display rules were not significantly related to this outcome. On the other hand, evidence for suppression was found when person-referent negative display rules were included in a model that tested the relationship between unit-referent negative display rules and patient satisfaction. Factoring out the negative relationship between person-referent negative display rules and patient satisfaction (γ = -0.26, t = -2.48, p = .02), unit-referent negative display rules were positively related to patient satisfaction (γ = 0.29, t = 2.73, p < .01) supporting Hypothesis 13. This result suggests that unit-referent negative display rules have both a positive and negative effect on patient satisfaction: directly, unit-referent negative display rules increase patient satisfaction; indirectly, they decrease patient

satisfaction. The proposed mechanism for this effect (i.e., unit-referent display rules → person-referent display rules → emotional labor strategies → nurse well-being → patient satisfaction) is tested in a later section where mediational pathways are considered.

Hypotheses 14 and 15 proposed that the relationships between unit-referent display rules and patient outcomes would be moderated by unit-level display rule strength. Hypothesis 14, for positive display rules, was unsupported for patient satisfaction (enthusiasmDR*strength, $\gamma = 0.74$, $t = 0.96$, $p = .34$) and nursing quality (enthusiasmDR*strength, $\gamma = 3.77$, $t = 0.92$, $p = .36$). Hypothesis 15, for display rules to suppress negative emotions, was also unsupported for patient satisfaction ($\gamma = 0.18$, $t = 0.50$, $p = .62$) and nursing quality ($\gamma = 0.96$, $t = 1.00$, $p = .32$).

Additionally, individual-level emotional labor strategies (H16) and well-being outcomes (H17) were proposed to be related to unit-level patient outcomes. Since HLM (Raudenbush et al., 2010) does not allow for the prediction of Level-2 outcomes from Level-1 predictors, this hypothesis was tested by aggregating the Level-1 predictors (i.e., emotional labor strategies and well-being outcomes) to the unit level and then testing the links among these variables in HLM (v.7; Raudenbush et al., 2010). Hypotheses 16a and 16b were tested by entering all three emotional labor strategies as simultaneous predictors of quality indicators and patient satisfaction, respectively (see Table 12). Results indicated that Hypothesis 16a was not supported, as surface acting was unrelated to patient satisfaction ($\gamma = -0.16$, $t = -1.53$, $p = .13$) and indicators of nursing quality ($\gamma = 0.06$, $t = 0.18$, $p = .86$). Hypothesis 16b was also unsupported; showing genuine emotions was unrelated to patient satisfaction ($\gamma = -0.05$, $t = -0.44$, $p = .66$) and indicators of nursing quality ($\gamma = 0.19$, $t = 0.52$, $p = .60$). In addition, deep acting was unrelated to

Table 12. Tests of relationships to unit-level patient outcomes (H16a-H17b) in HLM.

	Dependent Variable	
	Patient Satisfaction	Nursing Quality
	γ	γ
Unit-level predictors		
Surface acting	-0.16	0.06
Deep acting	-0.07	0.20
Showing genuine emotions	-0.05	0.19
pseudo-R^2	0.01	0.00
Job satisfaction	0.14	0.43
Vitality	0.12	-0.40
pseudo-R^2	0.05	0.04
Burnout	-0.16*	-0.44
Physical symptoms	0.06	0.75
pseudo-R^2	0.18	0.06
Non-hypothesized relationships		
Person-level empathy DRs	0.09	-0.01
Person-level enthusiasm DRs	0.29*	0.12
Person-level negative DRs	-0.11	0.07
pseudo-R^2	0.12	0.00
Exploratory analyses		
Patient acuity	-0.05	-0.53*
Patient load	-0.01	-0.02
Patient high positive affect	0.06	-0.10
Patient low positive affect	0.11	-0.37
Patient high negative affect	-0.28	0.95†
Patient low negative affect	0.27	-1.20**
pseudo-R^2	0.06	0.31

Note. All person-level predictors were aggregated to the unit level. H = hypothesis. DRs = display rules. Pseudo-R^2 values were calculated using the formula provided by Kreft and de Leeuw (1998) and Singer (1998). Level 1 n = 73. Level 2 n = 9.
†$p < .10$. *$p < .05$.

patient satisfaction γ = -0.07, t = -0.75, p = .45) and indicators of nursing quality (γ = 0.20, t = 0.62, p = .54).

Similarly, individual-level well-being (H17a) and ill-being (H17b) were posited to relate to unit-level patient outcomes. Results were unsupportive of H17a for the dependent variables of patient satisfaction (job satisfaction, γ = 0.14, t = 1.35, p = .18; vitality, γ = 0.12, t = 1.02, p = .31) and nursing quality (job satisfaction, γ = 0.44, t = 0.95, p = .35; vitality, γ = -0.40, t = -1.01, p = .32). However, unit-level nurse job satisfaction was significantly positively correlated with patient satisfaction (r = .37, p < .05), supporting H17a and suggesting that patients experience more satisfaction after staying on a unit in which nurses are more satisfied with their jobs.

H17b was partially supported in a model containing the predictors of burnout and physical symptoms. Nurse burnout was negatively related to patient satisfaction (γ = -0.16, t = -2.49, p = .02), although physical symptoms were unrelated to this outcome (γ = 0.06, t = 0.40, p = .69). Neither indicator of ill-being was related to nursing quality (burnout, γ = -0.44, t = -1.60, p = .11; physical symptoms, γ = 0.75, t = 1.60, p = .12), failing to support Hypothesis 17b. These findings underscore the importance of nurses' emotional health in facilitating patient care.

Although formal hypotheses were not made regarding the impact of individual display-rule perceptions or unit qualities (other than display rules; e.g., patient demand, load, and affect) on patient outcomes, these relationships were explored. Person-level responses to display-rule items (with the self as the referent) were aggregated to the unit level so that their relationships to unit-level patient satisfaction and nursing quality could be tested. As shown in Table 12, perceptions of expectations to display enthusiasm were

positively related to patient satisfaction (γ = 0.29, t = 2.15, p = .04), mirroring results at the unit level. Patients were more satisfied after having stayed on units where rules for nurses to display friendliness are stronger. No other significant relationships were detected from display rule perceptions, patient demand, patient load, or patient affect to patient satisfaction.

On the other hand, although display rule perceptions did not influence nursing quality (see Table 12), two unit attributes were found to predict nursing quality, accounting for a substantial 31% of the unit variance in this outcome. In particular, nursing quality was lower on units with greater patient acuity (γ = 0.53, t = 2.30, p = .03) and greater amounts of patient low-activation negative affect (as perceived by nurses; γ = 1.20, t = 2.72, p < .01). These finding suggests that units with sicker patients and with patients who experience higher levels of depression, fatigue, worry, and sadness are likely to have difficulty maintaining a high level of nursing quality, compared to national norms. It is possible, however, that quality issues and higher levels of patient depressed emotion are inherent when patients experience more severe illnesses; thus, these three factors may tend to co-occur more than they causally impact each other. The finding that nurse-reported patient acuity predicts nursing quality is particularly interesting when we take into account that nursing quality is standardized based on national norms for similar units. Therefore, although unit differences in patient acuity should have been accounted for when the nursing quality variable was standardized based on national norms, this relationship suggests that nurses are providing a unique perspective on patient acuity above and beyond the levels of acuity that could be captured by knowing the type of unit.

Tests of Mediation

Finally, I explored the possibility that the impact of unit-level display rules on unit-level patient outcomes is partially mediated by individual-level display rule perceptions, emotional labor strategies, and well-being outcomes as specified in Figure 1, including all possible mediational paths suggested by the figure. It was expected that while the direct paths from unit-level display rules to patient outcomes would be positive, the indirect paths of unit-level display rules to these outcomes through individual-level display rules, regulation, and well-being would be negative. A model was tested in Mplus version 6.1 (Muthén & Muthén, 1998-2011) that included all direct and indirect links between variables in Figure 1, with the exception of unit empathy display rules, social cohesion, unit tenure, and the display rule strength variables. These variables were largely unrelated to other variables in the figure, and empathy display rules did not exist at the unit level. Their exclusion reduced the number of parameters estimated by the model. Bootstrapped confidence intervals (based on 5000 samples) were used in an effort to produce standard error and fit statistic values that were less biased in the presence of nonnormal data (Enders, 2005). Bootstrapping provides a more accurate picture of the relationships between variables (i.e., more accurate Type I error rates) especially in the face of missing data (Enders, 2005).

Results indicated support for several mediational relationships (see Table 13). In particular, unit-level display rules mediated many links from patient load and affect to patient satisfaction and nursing quality. For example, when patients displayed more high-activation positive affect (unit-level; line 2 in Table 13), they were more likely to report increased satisfaction with their hospital stay. Part of this relationship was direct—

Table 13. Total, direct, and significant indirect effects.

Relationship	Total Effect	Direct Effect	Total Indirect Effect	Specific Indirect Effect
1. Patient load → U enth. DRs → patient satisfaction	-.20***	-.16***	-.04***	.02**
2. Patient hiPA → U enth. DRs → patient satisfaction	.19***	.15***	.04†	.08***
3. Patient loPA → U enth. DRs → patient satisfaction	.08	.28**	-.20**	.17**
4. Patient loPA → U neg. DRs → patient satisfaction	.08	.28**	-.20**	-.07*
5. Patient hiNA → U neg. DRs → patient satisfaction	-.49**	-.12	-.37***	-.07*
6. Patient load → U enth. DRs → nursing quality	.06***	.05**	.01	.01*
7. Patient hiPA → U enth. DRs → nursing quality	-.20***	-.15***	-.05**	-.06***
8. Patient loPA → U enth. DRs → nursing quality	.20***	.23***	-.03	-.13*
9. Patient loNA → U enth. DRs → nursing quality	-.47***	-.46***	-.01	-.03*
10. Patient load → U enth. DRs → P enth. DRs	.02	.00	.02*	.01*
11. Patient hiPA → U enth. DRs → P enth. DRs	.14**	.08†	.06**	.06**
12. Patient loPA → U enth. DRs → P enth. DRs	.15	.03	.12*	.12*
13. Patient loNA → U enth. DRs → P enth. DRs	.11†	.08	.03*	.03*
14. Patient hiNA → U enth. DRs → DA	.09	.16†	-.07	-.14*
15. Patient hiPA → U enth. DRs → PS	.04	.01	.03	.03*
16. Patient loPA → U enth. DRs → PS	.14*	.15*	-.02	-.09*
17. U neg. DRs → P neg. DRs → SA → vitality	-.04	-.02	-.02	-.01*
18. U neg. DRs → P neg. DRs → genuine emotions → vitality	-.04	-.02	-.02	-.01*
19. Patient loPA → U neg. DRs → P neg. DRs → SA → BO	.17*	.17*	.00	.01*
20. Patient hiNA → U neg. DRs → P neg. DRs → SA → BO	.11	.13†	-.02	.01*
21. Patient loPA → U neg. DRs → P neg. DRs → SA → PS	.14*	.15*	-.02	.01*
22. Patient hiNA → U neg. DRs → P neg. DRs → SA → PS	.14†	.21*	-.08	.01*
23. Patient loPA → U neg. DRs → P neg. DRs → SA → JS	.03	-.01	.04	-.01*
24. Patient hiNA → U neg. DRs → P neg. DRs → SA → JS	.04	.01	.03	-.01*
25. Patient loPA→U neg. DRs→P neg. DRs→genuine emotions	.06	.06	.00	-.02*
26. Patient hiNA→U neg. DRs→P neg. DRs→genuine emotions	.08	.11	-.03	-.03*

Note. SA = surface acting. DA = deep acting. DR = display rule. hiNA = high-activation negative affect. hiPA = high-activation positive affect. loPA = low-activation positive affect. DA = deep acting. PS = physical symptoms. Enth. = enthusiasm. Neg. = negative. JS = job satisfaction. BO = burnout. U = unit. P = person. All effects are standardized. The "specific indirect effect" column indicates the magnitude of the precise effect described in that row.

$^{\dagger}p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

patients who were happier, more enthusiastic, and more excited were likely to report greater satisfaction—but part of it was mediated through unit-level rules to express enthusiasm, suggesting that unit expectations for nurses to display enthusiasm play a unique role in contributing to the satisfaction of patients above and beyond the effects of patients' displayed positive affect.

Unit display rules also mediated the links of patient load and affect with many variables at the person level, including person-level display rules (empathy and enthusiasm), emotion regulation (deep acting), and nurse well-being (vitality; see lines 10-16 in Table 13). With only one exception (i.e., patient low-activation positive affect to unit enthusiasm DRs to physical symptoms), these relationships were fully mediated. These results suggest that unit-level patient qualities do not have direct effects on person-level display rules, emotion regulation, and nurse well-being; instead, their effects on these variables occur entirely through unit-level display rules.

Perhaps most intriguingly, patient low-activation positive affect and high-activation negative affect were found to spark a mediational chain traveling through unit-level display rules, person-level display rules, and surface acting to burnout, physical symptoms, and job satisfaction (lines 19-26 in Table 13). Not only did these unit characteristics have an impact on patient satisfaction and nursing quality at the unit-level, they also affected nurse emotion regulation and well-being at the person-level through display rules. For example, line 20 shows that direct relationship between patient high-activation negative affect and nurse burnout is marginal and positive. It also shows that patient high-activation negative affect has an indirect effect on nurse burnout by its positive association with unit-level negative display rules, which predict person-level

negative display rules positively, which leads to increased surface acting, and ultimately increased burnout. Thus, patient affect can be considered a structural part of the job that gives rise to display rules, compelling nurses to comply with display rules by surface acting, eventually leading to increased burnout and physical symptoms (line 22) as well as decreased job satisfaction (line 24).

Summary

In sum, patient characteristics were important predictors of unit-level display rules. Unit-level display rules were significantly related to person-level display rules, though not strongly enough to suggest that the two constructs are redundant. The distinction between unit- and person-level display rules is further underscored by their differential relationships with other variables. For example, person-level display rules predicted nurse emotion regulation, whereas unit-level display rules did not. These differential relationships suggest the presence of emergent effects (Bliese et al., 2007) of display rules when this construct is conceptualized at different levels. Nurse emotion regulation, in turn, predicted nurses' experiences of well-being and ill-being. Lastly, unit-level patient outcomes were predicted by several variables. Namely, unit-level rules guiding nurses to display enthusiasm were positively related to patient satisfaction. Unit-level nurse job satisfaction also positively predicted patient satisfaction, whereas unit-level nurse burnout negatively predicted patient satisfaction. In addition, nursing quality was negatively predicted by two constructs: unit-level patient acuity and patient low-activation negative affect. Thus, the present study identified many practically important relationships in the emotional labor processes of nurses. Table 14 summarizes the results of hypothesis tests.

Table 14. Outcomes of hypothesis tests.

Hypothesis		Support in HLM	Support from Correlation
H1a:	(+) Patient acuity to U empathy DRs	-	No
H1a:	(+) Patient acuity to U enthusiasm DRs	No	No
H1b:	(+) Patient acuity to U negative DRs	No	No
H2:	(-) Patient load to U empathy DRs	-	No
H2:	(-) Patient load to U enthusiasm DRs	No	No
H3a:	(+) Patient HiPA to U empathy DRs	-	No
H3a:	(+) Patient HiPA to U enthusiasm DRs	Marginal	YES
H3b:	(+) Patient HiPA to U negative DRs	No	No
H4a:	(+) Patient LoPA to U empathy DRs	-	No
H4a:	(+) Patient LoPA to U enthusiasm DRs	YES	YES
H4b:	(+) Patient LoPA to U negative DRs	No	No
H5a:	(-) Patient HiNA to U empathy DRs	-	No
H5a:	(-) Patient HiNA to U enthusiasm DRs	YES	YES
H5b:	(+) Patient HiNA to U negative DRs	YES	No
H6a:	(+) Patient LoNA to U empathy DRs	-	YES
H6a:	(+) Patient LoNA to U enthusiasm DRs	No	No
H6b:	(+) Patient LoNA to U negative DRs	YES	No
H7a:	(+) Task cohes. to empathy DR strength	-	No
H7a:	(+) Task cohes. to enthusiasm DR strength	No	No
H7a:	(+) Task cohes. to negative DR strength	No	No
H7b:	(+) Social cohes. to empathy DR strength	-	No
H7b:	(+) Social cohes. to enthusiasm DR strength	No	No
H7b:	(+) Social cohes. to negative DR strength	No	No
H7c:	(+) Unit tenure to empathy DR strength	-	No
H7c:	(+) Unit tenure to enthusiasm DR strength	No	No
H7c:	(+) Unit tenure to negative DR strength	No	No
H8:	(+) Unit- to person-level empathy DRs	YES	-
H8:	(+) Unit- to person-level enthusiasm DRs	YES	-
H9:	(+) Unit- to person-level negative DRs	YES	-
H10:	H8 moderated by DR strength	-	-
H10:	H8(ii) moderated by DR strength	No	-
H11:	H9 moderated by DR strength	No	-
H12:	(+) U empathy DRs to patient satisfaction	No	No
H12:	(+) U empathy DRs to nursing quality	No	No
H12:	(+) U Enthusiasm DRs to patient satisfaction	No	YES
H12:	(+) U Enthusiasm DRs to nursing quality	No	No
H13:	(+) U Negative DRs to patient satisfaction	No	No
H13:	(+) U Negative DRs to nursing quality	No	No
H14:	H12 moderated by DR strength	-	-
H14:	H12(ii) moderated by DR strength	-	-
H14:	H12(iii) moderated by DR strength	No	-
H14:	H12(iv) moderated by DR strength	No	-
H15:	H13 moderated by DR strength	No	-
H15:	H13(ii) moderated by DR strength	No	-

Note. DRs = display rules. HiPA = high positive affect. LoPA = low positive affect. HiNA = high negative affect. LoNA = low negative affect. Cohes. = cohesion. Satis. = satisfaction. PS = physical symptoms. U = unit.

Table 14. Outcomes of Hypothesis Tests. (continued)

Hypothesis		Support in HLM	Support from Correlation
H16a:	(-) Surface acting to patient satisfaction	No	No
H16a:	(-) Surface acting to nursing quality	No	No
H16b:	(+) Genuine emotions to patient satisfaction	No	No
H16b:	(+) Genuine emotions to nursing quality	No	No
H17a:	(+) Nurse job satis. to patient satis.	No	YES
H17a:	(+) Nurse job satis. to nursing quality	No	No
H17a:	(+) Nurse vitality to patient satis.	No	No
H17a:	(+) Nurse vitality to nursing quality	No	No
H17b:	(-) Nurse burnout to patient satis.	No	YES
H17b:	(-) Nurse burnout to nursing quality	No	No
H17b:	(-) Nurse PS to patient satis.	No	YES
H17b:	(-) Nurse PS to nursing quality	No	No

Note. DRs = display rules. HiPA = high positive affect. LoPA = low positive affect. HiNA = high negative affect. LoNA = low negative affect. Cohes. = cohesion. Satis. = satisfaction. PS = physical symptoms. U = unit.

Although the results show in Table 14 may not appear encouraging, hypothesis tests represented a stringent assessment of the relationships examined. Many of the relationships hypothesized did not work out when tested as part of a simultaneous model with multiple predictors in HLM. However, Figure 2 shows the significant simultaneous and bivariate findings of the present study. Several of the relationships supported in this figure were (a) not hypothesized and/or (b) only supported in bivariate tests. Hence the different stories told by Table 14 and Figure 2. Whereas Table 14 highlights the success of the expectations made a priori in the manuscript, Figure 2 provides a more complete picture of the multitude of findings uncovered by this study and their role in the emotional labor experience of nurses and patients.

Types of Nursing

As seen in Table 15, study variables differed in intriguing ways across nursing divisions. Several different nursing divisions were represented in the present data. Ambulatory nurses work in ambulances, outpatient surgery units, physicians' offices, schools, community centers, home health care, clinics, health insurance companies, and the government (Ambulatory Care Nurse, 2011). Critical care nurses focus on patients dealing with the most life-threatening of conditions (About Critical Care Nursing, 2012). Emergency nursing entails nurses who practice on patients in the initial phases of acute illness and trauma (Emergency Nurse, n.d.). Nurses in the general division perform duties such as discussing health concerns with patients, assisting physicians with examinations and procedures, providing support to patients and patient families, assisting patients with feeding, bathing, and other routine activities, educating and training family members to care for patients, running blood drives, and conducting

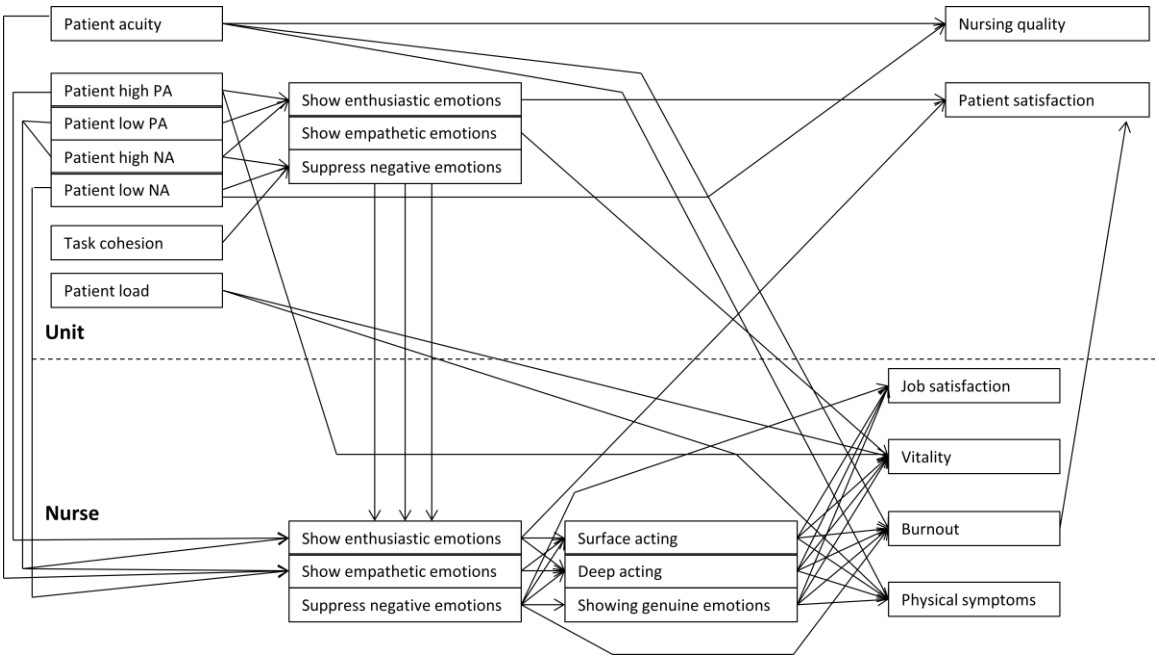

Figure 2. Significant direct paths in HLM analyses (including simultaneous and bivariate analyses). Lines indicate significant relationships. PA = positive affect. NA = negative affect. See Table 13 for significant indirect effects.

Table 15. Means on study variables by type of nursing.

	Type of Nursing			
Variable	1. Ambulatory	2. Critical Care	3. Emergency	4. General
Patient load	24.68[2,3,4,5,6,7,8,9]	2.19[1]	5.87[1]	5.07[1]
Patient acuity	1.89[2,3,4,5,6,7,8]	3.15[1,4,5,7]	2.75[1]	2.75[1,2,5,7]
Patient high positive affect	2.87[2,3,5,7]	2.24[1,4,5,6,7,8,9]	2.33[1,4,5,6,7,9]	2.61[2,5]
Patient low positive affect	3.26[2,3,8]	2.92[1,4,5,6]	2.69[1,4,5,6,9]	3.16[2,3,8]
Patient high negative affect	3.15[3,8]	3.37[6,8]	3.58[1,4,5,6,7,9]	3.21[3,6,8]
Patient low negative affect	3.38[6,7,8]	3.52[5,6,7]	3.47[6,7]	3.36[6,7,8]
Unit empathetic DRs	4.64	4.47	4.54	4.47
Unit enthusiastic DRs	4.41	4.29	4.10	4.46
Unit negative DRs	4.31	4.17	4.56	4.24
Task cohesion	2.89[8]	2.88[8]	2.72[8]	2.88[8]
Social cohesion	2.52[5,6]	2.72	2.48[5]	2.70[5]
Unit tenure (years)	7.45	6.44	5.23	5.36[5,6,7]
Empathetic DR perceptions	4.54	4.55	4.68	4.51
Enthusiastic DR perceptions	4.38	4.28	4.25	4.47
Negative DR perceptions	4.26	4.22	4.66	4.19
Surface acting	2.96	3.02	3.23	2.96
Deep acting	2.92	2.91	3.03	2.99[6]
Showing genuine emotions	3.33	3.26	3.40	3.42
Job satisfaction	3.12	2.97	2.80	2.87
Burnout	3.04	3.20	3.26	3.50[7]
Physical Symptoms	2.00[4]	2.10[4]	2.31	2.36[1,2,7]
Vitality	3.03	2.87	2.79	2.78
Nurses represented	*54*	*89*	*30*	*230*
Units represented	*8*	*7*	*4*	*22*
Nursing quality	-	0.30	-	-0.07
Units represented	*0*	*5*	*0*	*16*
Patient satisfaction	-	3.64	-	3.61
Units represented	*0*	*7*	*0*	*20*

Note. DR = display rule. OB = obstetrics. OR = operating room. Superscripts indicate means that are significantly different from another division's mean on a given variable, tested using ANOVA with Tukey's honestly significantly different correction for family-wise error.

Table 15. Means on study variables by type of nursing. (continued)

	Type of Nursing				
Variable	5. OB	6. Pediatrics	7. Procedural /OR	8. Psychiatric	9. Post-acute
Patient load	5.01[1]	4.12[1]	4.70[1]	8.75[1]	7.70[1]
Patient acuity	2.36[1,2,4,6,8]	2.90[1,5,7]	2.35[1,2,4,6,8]	3.00[1,5,7]	2.60
Patient high positive affect	3.70[1,2,3,4,6,7,8]	2.78[2,3,5,7]	2.52[1,2,5,6,9]	2.58[5]	3.17[2,3,7]
Patient low positive affect	3.25[2,3,8]	3.24[2,3,8]	3.02	2.62[1,4,5,6,9]	3.38[3,8]
Patient high negative affect	3.15[3,8]	2.99[2,3,4,7,8]	3.20[3,6,8]	3.97[1,2,4,5,6,7,9]	3.03[3,8]
Patient low negative affect	3.10[2,8]	3.02[1,2,3,4,8]	3.07[1,2,3,4,8]	3.93[1,4,5,6,7]	3.28
Unit empathetic DRs	4.43	4.49	4.45	4.84	4.53
Unit enthusiastic DRs	4.51	4.41	4.37	4.27	4.30
Unit negative DRs	4.12	4.25	4.21	4.42	4.33
Task cohesion	2.88[8]	2.87[8]	2.78[8]	3.37[1,2,3,4,5,6,7,9]	2.73[8]
Social cohesion	2.98[1,3,4,7,9]	2.82[1,7,9]	2.53[5,6]	2.88[9]	2.17[5,6,8]
Unit tenure (years)	10.41[4]	8.49[4]	9.39[4]	8.83	4.64
Empathetic DR perceptions	4.42	4.49	4.42	4.75	4.63
Enthusiastic DR perceptions	4.46	4.46	4.39	4.13	4.60
Negative DR perceptions	4.11	4.34	4.19	4.40	4.67
Surface acting	2.93	2.76	2.92	3.00	3.05
Deep acting	2.88	2.58[4]	2.88	2.90	3.15
Showing genuine emotions	3.55	3.34	3.29	3.27	3.60
Job satisfaction	2.84	2.91	2.90	3.27	2.73
Burnout	3.10	3.41	3.11[4]	3.04	3.56
Physical Symptoms	2.24	2.15	2.07[4]	2.08	1.96
Vitality	2.89	2.76	2.94	3.08	3.07
Nurses represented	*50*	*92*	*136*	*16*	*10*
Units represented	*4*	*8*	*18*	*3*	*1*
Nursing quality	-	-0.06	-	0.34	0.10
Units represented	*0*	*6*	*0*	*1*	*1*
Patient satisfaction	3.56	-	-	-	3.64
Units represented	*3*	*0*	*0*	*0*	*1*

Note. DR = display rule. OB = obstetrics. OR = operating room. Superscripts indicate means that are significantly different from another division's mean on a given variable, tested using ANOVA with Tukey's honestly significantly different correction for family-wise error.

general health screening seminars (Nursing - General Registered Nurse, 2012). Obstetrics (OB) nurses aid in delivering babies, caring for new mothers, and communicating condition and treatment issues with patient families (OB Nursing, 2011). Pediatrics nurses focus their patient care efforts on the infant, children, and adolescent population (Your Future in Pediatric Nursing, 2012). Procedural or operating room (OR) nurses assist physicians with treatments and surgical procedures, including endoscopies, infusion and intravenous (IV) therapy, dialysis, radiology procedures, and pre-surgery preparation (Nursing: Operating Room/Procedural Care, 2012). Nurses in the psychiatric division partake in assessing and treating the mental health needs of patients (About Psychiatric-Mental Health Nurses, n.d.). Post-acute nurses care for individuals who have been hospitalized and require additional nursing and rehabilitation care (What is Subacute or Post Acute Care, 2012).

Nurses working in post-acute contexts experienced the greatest amount of burnout. They characterized their patients as having the highest amount of low positive affect, and they reported the greatest amounts of perceptions of display rules to express enthusiastic emotions and to suppress negative emotions. Interestingly, they also reported engaging in deep acting and showing genuine emotions to the greatest extent. On the other hand, post-acute nurses reported the lowest amounts of social cohesion, unit tenure, job satisfaction, and physical symptoms. Thus, post-acute nursing contexts can be stressful to nurses in terms of burnout, demands to manage emotions, and job satisfaction.

At the other end of the spectrum, nurses working in psychiatric contexts reported the greatest amounts of job satisfaction and vitality. Correspondingly, they also reported the least amount of burnout and highest amount of task cohesion and were ranked highest

in terms of nursing quality. However, they reported the highest levels of high and low negative patient affect as well as display rules to express empathetic emotions. They also reported the lowest levels of low-activation positive patient affect and person-level display rules to express enthusiasm. Hence, we might surmise that nurses in psychiatric contexts are somehow able to overcome the stressors of patient affect and demands to display empathetic emotions, perhaps through strong professional ties with coworkers (i.e., task cohesion) and feeling that their work is meaningful.

Another interesting observation is the exceptionally high level of patient load experienced by ambulatory nurses. Ambulatory nurses saw close to three times as many patients per typical shift (M = 24.68) as the division with the next highest patient load (i.e., psychiatric nurses, M = 8.75). Ambulatory nurses also saw patients of decreased acuity (M = 1.89) compared to all other divisions except post-acute. As such, Hypotheses 2 and 3 were re-tested with ambulatory nurses' responses dropped. In support of Hypothesis 2, patient load was negatively related to unit-referent display rules to show enthusiasm (γ = -0.03, t = -3.32, p < .01), suggesting that as non-ambulatory nurses are required to care for increasing numbers of patients, they feel they are also less expected to show friendly, positive emotions to patients.

Hypothesis 3 proposed that patient acuity would be positively related to unit display rules to (a) show enthusiasm and (b) hide negative feelings. Although the null relationship to enthusiasm display rules was unchanged by dropping responses from the ambulatory division (γ = -0.05, t = -0.76, p = .45), patient acuity became positively related to negative display rules (γ = 0.26, t = 2.60, p = .01) supporting Hypothesis 3.

When non-ambulatory nurses are caring for patients who are sicker, they perceive stronger requirements for unit members to hide negative emotions such as disgust.

CHAPTER V

SUMMARY

Emotional labor has been recognized as a unique type of job demand over the past three decades as the service industry encompassed increasing numbers of employees (e.g., Glomb et al., 2004; Hochschild, 1983). Managing emotions as part of one's job has led to a juxtaposition between individuals' authentic selves and commercial selves, with organizations attempting to facilitate reconciliation of the two by providing workers with compensation (Hochschild, 1983). Although increased wages may increase emotional laborers' extrinsic motivation (Porter & Lawler, 1968) for performing their duties, numerous studies have documented the toll that emotional labor takes on employees (e.g., Bono & Vey, 2005; Hülsheger & Schewe, 2011), especially nurses (e.g., Dahling, 2007; Denison & Sutton, 1990; Feldstein & Gemma, 1995; Lewis, 2005).

The present study sought to examine the emotional labor process in nurses while also extending the literature in several ways. First, I attempted to test the fundamental assertion that display rules are the product of both contextual constraints and internalized influences (e.g., Arvey et al., 1998; Theodosius, 2008). Next, I examined constructs that were expected to contribute to the formation of shared display rules. The present research also built on past emotional labor investigations at the person level of analysis by examining the effect of unit-level display rules on person-level regulation and well-being

variables. Finally, the current study linked unit-level and individual-level components of the emotional labor process to patient reactions and nursing behavioral outcomes.

Through these endeavors, the present research has provided a window into the emotional demands of nursing as well as more general emotional labor principles. Diefendorff et al.'s (2011) finding that display rules exist at the unit and person levels has been confirmed. Display rules at different levels are associated with distinct correlates, providing further evidence that the relationships of display rules with constructs at different levels are emergent in nature (Bliese et al., 2007). Thus, the level of analysis is an important consideration in emotional labor research. For example, although person-level display rules were strongly related to regulation variables (i.e., surface acting, deep acting, and showing genuine emotions), unit-level display rules were unrelated to regulation. Differential relationships for display rules when represented as unit-level constructs compared to person-level constructs indicate that there are unique theoretical implications of display rules depending on whether they are conceptualized as a shared construct or an individual perception. This idea was further underscored by the finding that person-referent negative display rules operate as a suppressor of unit-referent negative display rules in their relationship with patient satisfaction. Although the direct relationship between unit-referent negative display rules and patient satisfaction is positive, the indirect relationship through person-referent display rules was negative.

Past findings linking display rule perceptions to emotion regulation and laborer well-being have been confirmed and extended. Display rules predicted emotion regulation and emotion regulation was related to well-being and ill-being variables. The present research also supported a relationship between deep acting and ill-being, though

past work has failed indicate consistent support for such a relationship. This finding represents a stride in the emotion labor literature and suggests the conclusion that deep acting, like surface acting, is physically and emotionally harmful for laborers. Display rules were also related to well-being outcomes through emotion regulation, demonstrating support for a mediated effect of display rules on laborer well-being. Not only do these results provide support for well-established findings in the emotional labor process, they also suggest the presence of relationships for which consistent empirical support has been lacking.

The experience and management of nurses' emotions has also been explored in ways not previously considered by quantitative investigations. Though qualitative work suggests the strong presence of a rule for nurses to display compassion to patients (e.g., Theodosius, 2008), the present research denotes the first known quantitative support for distinguishing such a display rule. Rules to display empathy permeated the present nursing sample and were consistent across a wide variety of nursing specialties and units. Two other types of display rules were present in the nursing profession—rules to show enthusiasm and rules to hide negative emotions. These display rules varied by unit and were associated with unique correlates (e.g., patient affect, unit task cohesion) and consequences (e.g., patient satisfaction, nurse vitality) in the emotional labor process. These findings support the prevalence of emotional demands in nursing and their effects on nurses as well as patients. Results suggest that the unit context is an important factor in determining the emotional demands of nursing and that such demands play a role in influencing key outcomes for hospitals. A discussion of the findings, their contribution to

the extant literature, suggested directions for future research, and practical implications are considered below.

Display Rules

Display rules have been identified as "norms regarding the expected management of facial appearance" (Ekman, 1973, p. 176). They have been proposed to be the means by which organizations communicate emotional labor expectations to their employees (e.g., Arvey et al., 1998; Hochschild, 1983; Pugh et al., 2013). Integrative display rules (Wharton & Erickson, 1993) are perhaps the most common type of display rule, found in healthcare, education, and service occupations (Brotheridge & Grandey, 2002). Integrative display rules entail that employees show positive emotions and hide negative emotions (Wharton & Erickson, 1993).

The current investigation contributes to our understanding of emotional display rules in the following ways. First, it identified a three-factor structure of display rules that had not yet been uncovered in quantitative analyses, though it fits with theoretical work regarding display rules in the nursing context (e.g., Theodosius, 2008). Second, the present research showed that while all three types of display rules exist at the person level, not all seem to be appropriate at the unit level (i.e., empathy display rules). At least in the nursing profession, it appears that rules to display empathy are extremely prevalent and consistent throughout and do not vary as a function of nursing unit. Though there are differences in the extent to which empathy display rules are endorsed by individuals (as reflected by the standard deviation of this display rule at the individual level), these differences are not a function of the unit to which one belongs. Third, display rule strength did not play a role in the emotional labor process, presumably due to the

uniformly high levels of within-unit agreement on display rules that occurred. The strong agreement on display rules might reflect the greater standardization present in the nursing practice (Rutherford, 2008), and this standardization may include job expectations such as display rules. Fourth, the present study provides evidence for emergent effects (Bliese et al., 2007) of display rules when analyzed at multiple levels of analysis. This is evidenced by the differential relationships between display rules at the unit and person levels (e.g., to emotion regulation and nurse well-being) and indicates that effects that occur at the person level of analysis should not be assumed to be replicated at the unit level of analysis, and vice versa. A complete model of emotional labor should consider the implications of display rules—as well as other emotional labor constructs—at multiple levels. I elaborate on each of these issues below.

Dimensionality of Unit-Referent Display Rules

Past work has supported both a one-factor model of integrative display rules (Diefendorff et al., 2011; Gosserand & Diefendorff, 2005) as well as a two-factor model (i.e., show positive and hide negative emotions; Brotheridge & Grandey, 2002; Diefendorff et al., 2005; Diefendorff et al., 2006; Schaubroeck & Jones, 2000). The present work also considered a three-factor model, based on the nature of the nursing context. For example, theorists have commonly considered the expectation for nurses to display empathy (e.g., Bolton, 2005; Lewis, 2005; Theodosius, 2008), whereas most of the service literature considers rules to display positive emotion to be a one-dimensional factor specifying the display of friendly emotions (e.g., Brotheridge & Grandey, 2002; Diefendorff et al., 2005; Diefendorff et al., 2006; Schaubroeck & Jones, 2000). Thus, it was plausible that ‘positive display rules’ might be more diversified in the nursing

context, encompassing two separate rules: rules to express empathy and rules to show friendliness.

The current investigation is the first known study to support a three-factor structure of shared display rules: rules to show empathy, rules to show friendliness, and rules to hide negative emotions. This level of detail enabled me to parse out the effects of empathy and enthusiasm display rules as opposed to lumping them together as a set. Interestingly, empathy display rules did not show strong unit-level properties. Instead they were found to be reported at a high level throughout the entire sample of nurses (M = 4.49, SD = 0.56, $r_{wg(j)}$ = .90), suggesting that rules to display empathy permeate the nursing occupation and are not specific to one unit ($ICC(1)$ = .00, $ICC(2)$ = .01) or type of nursing. This finding is consistent with qualitative work on nurses (e.g., Theodosius, 2008), as past authors have recognized the importance of nurses' expression of genuine concern toward building rapport with patients and calming them physiologically to facilitate care. Support for the three-factor model of integrative display rules marks an important step toward determining the specific mechanisms by which integrative display rules have effects.

In addition to the strong presence of empathy display rules throughout the current sample, rules to show enthusiasm were also reported at a relatively high rate (M = 4.39). Expectations for expressions of enthusiasm and friendliness appeared to be more differentiated among nurses (SD = 0.63, $r_{wg(j)}$ = .83) and between units ($ICC(1)$ = .05, $ICC(2)$ = .29) than expectations for displays of compassion. Rules to suppress negative emotions were less endorsed (M = 4.25) and more differentiated among nurses (SD =

0.80, $r_{wg(j)}$ = .78) and units (*ICC(1)* = .03, *ICC(2)* = .22), though the mean was still well above the midpoint of the scale (i.e., 3 on a 5-point scale).

Summary. Thus, nurses feel quite strongly that they are required to manage their emotional expressions on the job. These findings also suggest that perceptions of unit display rules to express enthusiasm and suppress negative affect vary depending on the unit to which one belongs. Rules to express enthusiasm and hide negative displays were more endorsed in some units than others. Affirmative findings for enthusiasm and negative display rules at the unit level corroborate past evidence for display rules as a shared construct (e.g., Diefendorff et al., 2011; Martin et al., 1998).

Dimensionality of Person-Referent Display Rules

The factor structure for individual-level display rule perceptions (with the self as the referent) mirrored the three-factor model at the unit level. Integrative display rule perceptions were divided into three separate expectations: rules to express empathy, rules to express enthusiasm, and rules to suppress negative emotions. All three types of display rules were strongly endorsed ($M_{empathyDRs}$ = 4.50; $M_{enthusiasmDRs}$ = 4.41; $M_{negativeDRs}$ = 4.24), though slight differences indicated empathy display rules as being most endorsed, followed by enthusiasm display rules, and negative display rules. The greatest amount of variability in endorsement occurred for negative display rules (*SD* = 0.84), followed by enthusiasm display rules (*SD* = 0.66), and empathy display rules (*SD* = 0.59). Empathy display rules and enthusiasm display rules were most strongly related (r = .46, p < .01), followed by enthusiasm and negative display rules (r = .29, p < .01) and empathy and negative display rules (r = .11, p < .01). Interestingly, none of the self-referent display rule perception dimensions demonstrated unit-level properties (see Table 3). This finding

indicates that although nurses agree that display rules are present at higher levels (i.e., unit, occupation), the degree to which display rules are internalized is a function of the individual.

Antecedents of Display Rules

Patient Attributes. Several attributes of hospital units were expected to have direct effects on the level of shared display rules: patient acuity, patient load, and patient displayed affect. The present study considered patient load to be analogous to busyness, which has been found to decrease the likelihood that laborers will display positive emotions (e.g., Pugh, 2001; Rafaeli & Sutton, 1990). However, the present research did only supported busyness as an antecedent of display rules at the unit level when nurses from the ambulatory specialty were dropped from analyses. This finding suggests that for non-ambulatory nurses, units with greater numbers of patients to care for are occupied by members who feel less compelled to show enthusiasm to patients.

Patient acuity was thought to be a form of interpersonal demand on the job—patients who are sicker should require greater attention from nurses—that may impact the presence of display rule perceptions at the unit level (e.g., Diefendorff & Richard, 2003; Rafaeli & Sutton, 1990; Tan et al., 2003). Tan et al.'s (2003) and Rafaeli and Sutton's (1990) work supported a link between interpersonal demand and employee displays. Diefendorff and Richard (2003) identified display rules as being a consequence of interpersonal demand and an antecedent of employee displays. Theodosius (2008) provided several vignettes exemplifying the importance of nurses' emotions in facilitating care and preventing the psychological stress that often accompanies medical procedures. This prediction was only supported at the unit level for negative display rules

when responses from ambulatory nurses were excluded, suggesting that acuity may impact the display rule perceptions shared by non-ambulatory nurses at the unit level.

Patient acuity was positively linked with employee perceptions of display rules to show empathy in the full sample. When individual nurses perceive their unit as housing sicker patients, they also perceive themselves as being required to display greater empathy. The degree to which empathy display rules are endorsed by nurses is dependent on how sick patients are on their units.

Patient affect at the unit level showed significant relationships with unit- and person-level display rules. On units where patients display higher levels of positive affect (both high- and low-activation), nurses reported displays of enthusiasm as being more expected on the unit and of themselves individually. This finding is consistent with the behavioral ecology view of facial expressions (Fridlund, 1997) and the emotions as social information (EASI) model (Van Kleef, 2009). When units house patients who display happiness, excitement, and enthusiasm, nurses use this social information (Fridlund, 1997; Van Kleef, 2009) to inform display rules that they should express enthusiasm and friendliness in response.

Interestingly, at the person level, patient low-activation positive affect was negatively related to rules to show empathy (person-referent). This finding suggests that on units where patients are at ease, calm, and relaxed, nurses endorse lesser expectations to "reassure patients who are distressed or upset," "remain calm even when feeling astonished," and "express feelings of sympathy (i.e., saying you 'understand' or you are sorry to hear about something)." It appears that when patients are at ease, nurses feel they are expected to respond with enthusiasm and friendliness; the expressions of compassion

that might be more expected with anxious patients (e.g., Theodosius, 2008) were less important when interacting with patients who are already calm.

Alternatively, on units where patients display negative affect (both high- and low-activation), nurses reported unit-level display rules to suppress negative emotions as more expected. Patient negative affect sends information (Fridlund, 1997; Van Kleef, 2009) to nurses that patients are angry or worried; in these cases, nurses deem it to be even more necessary to suppress negative displays that might add to patient negative affect. Patient high-activation negative affect was also negatively related to the expectation for nurses to display enthusiasm at both the person and unit levels. When patients are angry, tense, and frustrated, nurses believe it to be less appropriate to respond by being cheerful and friendly. They appear to adopt a neutral affective display in order to prevent patient negative affect from escalating.

Thus, the present study identified patient affect as a strong predictor of display rules at the unit and person levels. This work corroborates with past work supporting interaction partner qualities as influences on interpersonal transactions (e.g., Rafaeli & Sutton, 1990; Tan et al., 2003) while extending it to incorporate the role of display rules at multiple levels. Future research should continue to explore the role of interaction partner qualities in shaping emotional labor transactions.

Unit Attributes. In addition to investigating the role of perceived patient characteristics in shaping unit-level display rules, I also examined perceived attributes of units themselves. Specifically, I considered whether display rules were directly impacted by the unit attributes of task cohesion, social cohesion, and unit tenure in exploratory analyses. Although significant relationships from social cohesion and unit tenure to unit-

level display rules were not found, display rules to suppress negative emotions were more prevalent on units with decreased task cohesion. One might speculate that this effect is attributable to a heightened level of experienced negative affect in nurses working in low cohesion units, such that as nurses experience disagreement with their coworkers on how to perform tasks (i.e., low task cohesion), they are more likely to feel negative emotions, which then heightens the perception that unit members must suppress these negative emotions so as to prevent them from interfering with patient care. Past research on athletes has supported a negative association between task cohesion and group members' experiences of tension, anger, and depression (Terry et al., 2000), but future investigations into this proposed mediational chain are encouraged.

Summary. Several dimensions of patient affect were related to display rules at both the unit and person levels, signifying the importance of interaction partners in negotiating the emotional displays they receive (e.g., Theodosius, 2008). With two exceptions (i.e., patient acuity predicting person-level empathy DRs and task cohesion predicting unit-level negative DRs), other unit qualities did not strongly contribute to the formation of display rule perceptions at the unit or person levels. Thus, future investigations should (a) continue to explore the qualities of interaction partners that contribute to display rule formation and (b) theorize about and empirically test the role of other contextual variables in the emotional labor process. One variable that might be considered in future research is the type of nursing—patient load and patient acuity hypotheses that were unsupported in the full sample obtained support once the ambulatory specialty was dropped from analyses.

Display Rule Strength

Display rule strength in the present study is defined as unit members' agreement on their perceptions of unit-level display rules. It was operationalized as the standard deviations of unit-level rules to display empathy, show enthusiasm, and hide negative emotions, though the signs of coefficients were flipped when presenting results so that positive relationships indicate greater strength.

Task cohesion, social cohesion, and unit tenure were largely unrelated to shared display rule strength, contrary to support for these variables as predictors of group perception strength in the extant literature (e.g., Berger & Luckmann, 1967; Schneider & Reichers, 1983). Although Klein et al. (2001) did not find support for job tenure as an antecedent of group-level agreement on workplace perceptions, they speculated that group tenure could be expected to relate to group agreement. Opposite of expectations, unit tenure was negatively related to unit-level enthusiasm display rule strength. As unit members worked together on the unit longer, they were less likely to agree on the extent to which displays of enthusiasm were expected of them. This finding suggests that units with lower levels of average unit tenure experienced greater agreement on the degree to which enthusiasm displays were required. It could be the case that more supervisory attention is paid to units with newer members, and thus, the enthusiasm display rule message that units with newer members receive is more consistent throughout the unit due to a more deliberate approach from management. It could also be the case that unit members' perceptions of display rules become more varied as they interact with an increasing number of members over time (Cannon-Bowers, Salas, & Converse, 1993),

which would cause greater divergence in perceptions of unit display rules. Researchers might attempt to elucidate the cause of this finding in future investigations.

Although not hypothesized, other unit qualities were explored as antecedents of unit display rule strength. All relationships were nonsignificant, with one exception. Patient low-activation positive affect was positively related to enthusiasm display rule strength (i.e., units with patients showing calm emotions tended to exhibit stronger agreement in the unit rule to show enthusiasm). An explanation for this effect was not readily apparent; therefore, the type of nursing was considered as an influence on this relationship. One division did stand out as having low values of patient low-activation positive affect (M = 2.69) and low enthusiasm display rule strength (SD = .90): emergency nursing. Patients who are seen in emergency contexts are likely to be anything but calm, relaxed, and at ease, as could be expected since the nature of their illness or injury caused them to seek immediate medical attention. In response, some nurses may feel that appearing friendly and welcoming is expected because they are often the first medical personnel to see the patient and they are trying to facilitate the positive affect that would aid in their impending care (e.g., Theodosius, 2008). On the other hand, some nurses may feel that displays of friendliness and enthusiasm show disrespect for the gravity of certain emergency situations that could be life-threatening. These conflicting opinions would contribute to lesser enthusiasm display rule strength at the unit level. Even though the explanations provided speculate about possible causes for the relationship between patient low-activation positive affect and enthusiasm display rule strength, future research should confirm why there is greater agreement on unit rules to express enthusiasm when patients are expressing a greater sense of being at ease, calm,

and relaxed. There may be certain qualities about emergency nursing contexts in particular that can provide insight into the low-low end of this relationship.

Summary. Display rule strength was not found to be an important outcome of the unit qualities examined here. Only two unit qualities (i.e., patient low-activation positive affect and unit tenure) contributed to shared display rule strength, though one relationship was not hypothesized and the other was in the opposite direction of hypotheses. These findings failed to support past work on task cohesion, social cohesion, and tenure as antecedents of norm perception strength (e.g., Berger & Luckmann, 1967; Klein et al., 2001; Schneider & Reichers, 1983). It is possible that more supportive findings would be uncovered in samples with greater variability in agreement on display rules, as the average unit standard deviations of shared display rules were all .80 or less in the present study (see Table 5). The present sample endorsed quite cohesive perceptions of unit-level display rules, restricting the range from which associations could occur. This finding in itself is notable, though, as it entails that nurses across a wide variety of units and specialties tend to perceive similar expectations for their emotional displays with patients.

Consequences of Display Rules

One of the aims of the present research was to replicate and build upon past work examining the outcomes of display rules. Much of the emotional labor literature has been devoted to understanding the consequences of emotional labor for the laborer (e.g., Bono & Vey, 2005; Goldberg & Grandey, 2007; Grandey, 2000), but only one known study has examined the impact of shared display rules on this process (i.e., Diefendorff et al., 2011). Diefendorff et al. (2011) identified person-level display rule perceptions as a bridge between unit display rules and laborer regulation/well-being.

Consistent with past research (e.g., Diefendorff et al., 2011), the relationships of unit-level display rules with individual display rule perceptions were examined. In line with the findings of Diefendorff et al. (2011), it was proposed that unit-level display rules would contribute positively to person-level display rule perceptions. These analyses confirmed that unit rules to express enthusiasm were positively related to person-level perceptions of enthusiasm display rules; likewise, unit rules to suppress negative emotions were positively related to person-level perceptions of negative display rules. These relationships were not moderated by display rule strength, meaning that the relationships were positive and similar in magnitude for all units, regardless of the level of agreement among unit members.

Unit-level display rules mediated the impact of other unit-level characteristics on person-level display rules (see Table 13). In particular, unit-level patient high-activation positive affect, patient low-activation positive affect, patient low-activation negative affect, and patient load all had a positive impact on person-level rules to display enthusiasm through unit-level rules to show enthusiasm. Patient low-activation positive affect and patient high-activation negative affect also had effects on person-level rules to suppress negative emotions through unit-level negative display rules. These findings indicate that shared display rules are the link between unit-wide characteristics and individual experiences of display rules. This conclusion is of integral importance when considering the factors that contribute to display rule formation; it suggests that unit qualities have effects on individual display rule perceptions, sparking a chain of associations in the emotional labor process. These findings provide quantitative support for Theodosius's (2008) statement that display rules "represent something that is

infinitesimally social and external to the individual yet something intrinsically personal, internalised by the individual" (p. 205) by linking contextual characteristics to individual perceptions of display rules in a mediational chain.

Nurse Regulation. In accordance with many investigations on emotional labor (e.g., Bono & Vey, 2005; Diefendorff et al., 2011; Grandey, 2000; Hülsheger & Schewe, 2011), the links of display rules, emotion regulation, and laborer well-being were examined. It was expected that display rule perceptions would be more proximally related to nurse emotion regulation and well-being than unit-level display rules. Nurse perceptions of rules to hide negative emotions were positively related to surface acting and deep acting, and negatively related to showing genuine emotions, replicating prior work that linked display rules to greater acting and suppression (e.g., Bono & Vey, 2005; Brotheridge & Lee, 2003; Diefendorff et al., 2005; Gosserand & Diefendorff, 2005; Grandey, 2003; Trougakos et al., 2011).

Rules to express enthusiasm and empathy were not related to nurse emotion regulation in simultaneous analyses. This finding was somewhat surprising in light of previous work that identified an association between instructions to express positive emotions and surface acting (e.g., Goldberg & Grandey, 2007). In recognition of the possibility that multicollinearity among the display rule constructs precluded the ability to detect significant findings, empathy and enthusiasm display rules were separately tested as sole predictors of emotion regulation. In these analyses, both empathy display rule perceptions and enthusiasm display rule perceptions positively predicted surface acting and deep acting, but not the strategy of showing genuine emotions. This pattern of results might suggest that enthusiasm and empathy display rules might form a cohesive

'display rule to express positive emotions' at the person level. However, conceptually they refer to distinct guidelines for the types of displays that are expected. They were also empirically predicted by different contextual antecedents (i.e., relationships with patient affect in opposing directions). Thus, all three facets of integrative display rules at the person level were associated with increases in surface acting and deep acting. The degree to which display rules are internalized impacts the extent to which nurses feel they manage their emotions by acting.

Although display rule perceptions were expected to be more proximally related to nurse emotion regulation and well-being than unit display rules, unit display rules were also expected to be related to these person-level variables based on the findings of Diefendorff et al. (2011). It was quite surprising that unit-level display rules did not predict any emotion regulation variables at the person-level in simultaneous analyses. Even when each facet of integrative display rules at the unit level was entered as the sole predictor of each emotion regulation variable, unit-level displays did not relate directly to nurse surface acting, deep acting, or showing genuine emotions. These results contradict the findings of Diefendorff et al. (2011) who found that unit-level integrative display rules did relate directly with regulation strategies and well-being outcomes. The present study uncovered lesser variability in display rules at the unit level than Diefendorff et al. (2011), and this may have contributed to the null findings here. Future research is recommended with a sample that contains wider variety of emotional laborers so that the effect of this variability on the findings may be further discerned. On the other hand, the present findings may also underscore the discriminant validity of shared display rules and display rule perceptions as independent constructs.

Nurse Well-Being. Past research has documented a strong association between surface acting and ill-being (e.g., Brotheridge & Lee, 2002; Beal et al., 2006; Grandey, 2003; Grandey et al., 2004; Gross & John, 2003; Hülsheger & Schewe, 2011; Totterdell & Holman, 2003), whereas other studies have suggested a positive link between showing genuine emotions and well-being (e.g., Baumeister et al., 1998; Côté, 2005; Goldberg & Grandey, 2007; Gross, 2002). Support for a relationship between deep acting and well-being has been less prominent, though a few studies have found links from deep acting to increased psychosomatic complaints (e.g., Hulsheger & Schewe, 2011) and reduced positive affect (Judge et al., 2009). In the present study, surface acting was related to declines in job satisfaction and vitality and increases in burnout and physical symptoms. Showing genuine emotions co-occurred with greater experiences of job satisfaction and vitality. Authors have theorized that surface and deep acting have resource-depleting effects (e.g., Baumeister et al., 1998; Gross, 2002) for laborers, but that laborers can avoid these effects by displaying genuine emotions. Though showing genuine emotions is not as widely researched as the strategies of surface and deep acting (Hochschild, 1983), the present study confirms that individuals who express their spontaneous feelings experience a stronger sense of being alive and vital, which should entail a greater amount of resource availability (e.g., Baumeister et al., 1998; Gross, 2002). Côté's (2005) social interaction model posits that displaying genuine, positive emotion elicits favorable patron reactions. This passing of positive displays back and forth between nurses and patients can contribute to an upward spiral of events (Fredrickson, 1998; Fredrickson & Joiner, 2002) culminating in a stronger evaluation of satisfaction with one's job.

Even though research has supported a positive link between deep acting and job performance (e.g., Grandey, 2003; Hülsheger & Schewe, 2011), support for an association between deep acting and ill-being has been mixed (e.g., no relationship, Goldberg & Grandey, 2007; positive relationship, Hülsheger & Schewe, 2011). The present results contrasted previous null findings in the sense that evidence was found to support negative relationships from deep acting to job satisfaction and vitality and positive relationships from deep acting to burnout and physical symptoms. At least in the context of nursing, it appears that the effects of deep acting align with those of surface acting. Even though deep acting has been proposed to have less detrimental effects than surface acting due the perception that it is a more authentic strategy (e.g., Hochschild, 1983), the present findings suggest that it is still a detrimental strategy for laborer well-being, perhaps due to its effect on depleting laborer resources (e.g., Baumeister et al., 1998; Gross, 2002). More empirical support should be sought before arriving at a final conclusion on the relationship between deep acting and ill-being, though the empirical support available seems to suggest deep acting can be detrimental for laborer well-being (e.g., Hülsheger & Schewe, 2011; Judge et al., 2009).

Although not hypothesized by the present study, supplemental analyses yielded several other significant relationships of contextual and emotional labor variables with laborer well-being. Person-level rules to suppress negative emotions were found to be directly related to job satisfaction (negatively) and burnout (positively) above and beyond the effects of emotion regulation. Unit-level patient load was negatively related to vitality and positively related to nurse physical symptoms; as units require nurses to care for more patients, their nurses are likely to experience detriments to their physical well-being

and their feelings of being alive and vital. Similarly, patient acuity was positively related to burnout. Although job demand variables have been found to moderate relationships between emotional labor and laborer well-being (Zapf, 2002), the present study found support for a direct link between job demand (i.e., patient load, patient acuity) and decreases in individual well-being. This finding relates to the more general work on job demands in which job features have been found to have a linear relationship with employee well-being (e.g., Warr, 1990). Thus, patient load and patient acuity may be conceptualized as a form of job demand that directly harms nurse well-being.

On the other hand, unit-level patient high-activation positive affect was positively related to nurse vitality. On units where patients express greater feelings of happiness, excitement, and enthusiasm, nurses are benefiting from these emotional transmissions in terms of vitality. Although this link was not mediated through display rules as would be expected (see Table 13), Côté's (2005) model provides insight into a possible mechanism by which this path might occur. The social interaction model Côté (2005) proposed suggests that emotional labor can have benefits for the laborer through the sequential reciprocation of positive displays between two interaction partners. Similarly, broaden and build theory (Fredrickson, 1998; Fredrickson & Joiner, 2002) speculates that positive experiences can trigger an upward spiral, perpetuating and magnifying these experiences over time. Thus, happiness on the part of one's interaction partner can help bolster feelings of being energized, alive, and vital.

Moreover, support was found for several mediational paths from unit-level patient affect to nurse well-being through unit-level display rules, person-level display rules, and surface acting. In particular, patient low-activation positive affect and high-activation

negative affect led to an increase in nurse burnout and physical symptoms through their effects on unit display rules to suppress negative emotions. Negative display rules at the unit level were associated with increases in negative display rule perceptions (i.e., person level), which led to an increase in surface acting and ultimately, burnout and physical symptoms. Similarly, this mediational pathway was repeated (opposite in sign) from patient low-activation positive affect and high-activation negative affect to nurse job satisfaction, ultimately resulting in decreased job satisfaction when high levels of these patient affect variables were present. Though support has often been found for the direct links in the chain from display rules to well-being (e.g., Beal et al., 2006; Bono & Vey, 2005; Brotheridge & Lee, 2003; Diefendorff et al., 2005; Gosserand & Diefendorff, 2005; Grandey, 2003; Grandey et al., 2004; Gross & John, 2003; Hülsheger & Schewe, 2011; Totterdell & Holman, 2003), only one other known study has supported the extended mediational chain from unit-level display rules to individual burnout (i.e., Diefendorff et al., 2011). The present results go a step further in providing evidence for patient affect as the precipitator of this entire chain of events in the emotional labor process. These findings confirm that person-level display rules are the most proximal predictors of nurse emotion regulation (consistent with Trougakos et al., 2011). Furthermore, patient high-activation negative affect and low-activation positive affect can set off a chain of experiences for the nurse encompassing a greater amount of faking and ultimately decreased well-being.

Patient Satisfaction and Nursing Quality

One of the most prominent contributions of the present study was its incorporation of organization- and customer-provided data into a multilevel model of

emotional labor. Past work has considered the perspective of the customer in transactions involving emotional labor (e.g., Barger & Grandey, 2006; Pugh, 2001; Tsai, 2001), though none has done so using objective metrics and patient-reported reactions at the unit level. The present research's contribution in this area extends the work of Diefendorff et al. (2011) and the majority of emotional labor research by considering the impact of emotional labor on outcomes other than laborer perceptions and well-being. Although these analyses were only performed on a subset of units for which data were available (n = 29 units for nursing quality indicators and n = 32 units for patient satisfaction), the present findings suggest several opportunities for future research to theorize about the antecedents of patron reactions and service quality.

It was expected that integrative display rules would be associated with greater levels of nursing quality and patient satisfaction. Despite the fact that the relationships of unit display rules with these outcomes were mostly nonsignificant (possibly due in part to low statistical power), one display rule did directly predict the impact of nursing on patients. Rules to display enthusiasm (unit-referent rules and person-referent perceptions of rules aggregated to the unit level) were positively related to patient satisfaction. Patients were more satisfied with their nursing experience when they stayed on a unit with a greater prevalence of rules to display enthusiasm. It is interesting to note the parallel nature of this finding to the larger emotional labor literature. Research on traditional service occupations (e.g., cashiers) has found that enthusiastic displays predict ratings of customer satisfaction and service quality at the person-level (Barger & Grandey, 2006; Pugh, 2001; Tsai, 2001). In the present study, enthusiasm display rules were related to patient satisfaction at the unit level (though actual displays of enthusiasm

were not measured). This finding suggests that whether the context is a hospital or a retail store, service recipients value the display of friendliness when appraising their overall experience.

Additionally, unit-referent negative display rules were significantly related to patient satisfaction when the effect of person-referent negative display rules was accounted for. The total relationship between unit-referent negative display rules and patient satisfaction was null, but when person-referent negative display rules were included in the model, the effect of unit-referent negative display rules became positive. This finding suggests that unit-referent negative display rules have a partially positive and partially negative effect on patient satisfaction; the positive effect is evident when the negative effect is accounted for by person-referent negative display rules. Person-referent negative display rules suppress the relationship of unit-referent negative display rules with patient satisfaction, highlighting again the importance of considering these constructs at different levels to truly understand the nature of their effects.

The links of other study variables with nursing quality and patient satisfaction were also examined. Although not hypothesized, patient acuity and patient affect variables predicted nursing outcomes directly. Patient acuity was negatively related to indicators of nursing quality; this relationship indicates that units with sicker patients (as reported by nurses) also experience patients with greater amounts of pressure ulcers, ventilator-associated pneumonia, falls, catheter-associated urinary tract infections, and central-line bloodstream infections (relative to national unit norms) than units with less sick patients. Nurses' perceptions of their patients' degree of illness (aggregated to the unit level) were associated with lapses in nursing care quality.

Patient low-activation negative affect was also negatively related to nursing quality. Units with patients experiencing heightened feelings of depression, fatigue, sadness, and worry were more likely to experience the lapses in nursing quality mentioned above. Though one possible explanation for this finding is that patients with greater levels of illness also experience greater amounts of low-activation negative affect ($r = .44$, $p < .05$), the effect of patient acuity on nursing quality was not mediated by patient low-activation negative affect ($\beta = .01$, *ns*). Although customer positive affect has been linked to customer perceptions of service quality in the emotional labor literature (e.g., Pugh, 2001), more work is needed to determine why patient low-activation negative affect is related to nursing quality. Perhaps the causal relationship is opposite of what was proposed here, such that issues of nursing quality increase feelings of depression, fatigue, sadness, and worry in patients. Future research might help elucidate the causal direction of this link.

Unit-level patient high-activation negative affect was marginally *positively* related to unit-level nursing quality. Units with patients feeling anger, tension, anxiety, and frustration were more likely to also have higher values on nursing quality indicators. Research on anger during negotiations may inform these results, as Van Kleef, De Dreu, and Manstead (2004) showed that individuals made larger concessions when dealing with angry negotiation partners versus happy negotiation partners. It may be the case that patients who are angry and frustrated are more successful in eliciting the nursing care that they need by being demanding of nurses, supporting Theodosius's (2008) notion that patients play a part in negotiating their care.

In addition to a number of direct effects from patient acuity and affect to nursing quality, mediational analyses provided support for unit display rules as mediators of relationships from patient load and affect to nursing quality and patient satisfaction (see lines 1-9 in Table 13). For example, enthusiasm display rules at the unit level were found to have a positive direct effect on patient satisfaction. Mediational analyses suggested that unit-level enthusiasm display rules also operated as a partial mediator between patient positive affect (high- and low-activation) and patient satisfaction (see lines 2-3 in Table 13). Thus, units with patients who display positive affect tend to receive higher patient satisfaction ratings, and some of this effect occurs through an increase in unit rules to display enthusiasm. Even though unit characteristics such as patient load and patient affect have direct effects on nursing quality and patient satisfaction, they also have indirect effects on these outcomes through unit-level display rules. These findings underscore the importance of unit display rules as more proximal predictors of service quality and patron satisfaction when compared to other unit characteristics.

In addition to exploring the links of unit attributes with patient satisfaction and nursing quality, associations between person-level variables and these outcomes were also considered. Although most of these relationships were nonsignificant, nurse burnout was negatively related to patient satisfaction (γ = -0.16, t = -2.49, p = .02). Patients who stayed on units with more burned out nurses were less likely to be satisfied with their nursing care. This finding is particularly interesting in light of the nonsignificant relationship between nurse burnout and nursing quality indicators. It suggests that patients who were treated by nurses experiencing burnout did not experience quantifiable decrements in their care, but they did *feel* less satisfied with their nursing treatment.

Perhaps nurse burnout communicated social information (Fridlund, 1997; Van Kleef, 2009) to patients that nurses felt detached from the care they were providing, and patients internalized their perceptions of nurse burnout to arrive at an assessment of patient satisfaction that was lower than that of patients who were treated by nurses who were less burned out.

Summary

In sum, nursing quality and patient satisfaction were influenced by a number of variables in the emotional labor process. They were impacted directly by enthusiasm display rules (unit- and person-level), negative display rules, nurse burnout, and unit attributes including nurse ratings of patient affect and patient acuity. Unit attributes also impacted patient satisfaction and nursing quality indirectly through unit-level display rules. Taken as a whole, unit outcomes reported by alternative sources (i.e., NDNQI, patients) are directly and indirectly shaped by several emotional labor constructs.

Type of Nursing

Another contribution of the present study was its ability to consider differences in emotional labor by various nursing divisions. Although divisions reported significantly different levels of patient affect, acuity, and load, differences by division on display rules were not significant. This finding suggests that the mean levels of display rule perceptions are the same across types of nursing, and that similarities in nursing across divisions override the influences of patient characteristics on unit display rules. In terms of supported differences, ambulatory nurses reported a level of patient load much higher than other divisions; alternatively, they reported a level of patient acuity significantly lower than almost all other divisions.

Though there were no differences in display rules, there were differences for patient affect (as reported by nurses). Patient high-activation positive affect was found to be highest in the OB nursing division, as would be expected based on the typical experiences of patients receiving OB nursing care (i.e., welcoming a newborn member to their family). Patient high-activation negative affect was found to be highest in the psychiatric division; patients with psychiatric needs were more likely to experience anger, tension, anxiety, and frustration compared with patients receiving other types of care. Patient low-activation positive and negative affect tended to be more consistent across divisions.

Beyond affect, nurses in the psychiatric division reported the greatest level of task cohesion. Some research suggests that psychiatric nursing is distinguished from other types of nursing in that there is a greater shared understanding among its members of its reason for being (Newman, Sime, & Corcoran-Perry, 1991). Newman et al. (1991) suggest that psychiatric nurses are drawn specifically to that field because of its 'greater purpose,' and perhaps this purpose translates into a greater commitment toward patients in the shape of more uniform views on how to approach tasks (i.e., high task cohesion).

Social cohesion was found to be the highest in the OB nursing division. It may be the case that individuals drawn to provide OB care feel attracted to this division because of the greater likelihood of providing care to patients experiencing positive affect (patient high-activation positive affect $M = 3.70$, significantly higher than all other divisions except post-acute). Interacting with patients experiencing greater amounts of positive affect may be more attractive to individuals likely to experience positive affect themselves (e.g., the ASA model; Schneider et al., 1995), and this positive affect may

facilitate social relationships with coworkers, as would be suggested by broaden and build theory (Fredrickson, 1998; Fredrickson & Joiner, 2002). Alternatively, the type of tasks encountered in the OB division might also lend themselves to the development of social relationships. When nurses undergo positive experiences at work (e.g., helping a grateful mother deliver and care for her new baby, coaching a family through a trying delivery that had a positive outcome), they may be more likely to try to perpetuate these positive emotions by spending personal time with coworkers. Further, OB nurses reported the greatest amount of unit tenure. They may have experienced more social cohesion because they worked with their coworkers for longer than most nurses on other types of units and had time to build strong personal ties.

Consistent with the lack of differences in display rules by division, divisional differences in nurse emotion regulation and well- and ill-being were scarce. Even though divisions reported differing levels of patient affect, acuity, and load as well as task and social cohesion, these differences were typically not reflected in the emotional and physical experience of the nurses themselves. This finding is quite interesting, especially in light of the unique experiences of the nurses in the ambulatory, psychiatric, and OB divisions. Despite the exceptional circumstances perceived by nurses in these fields, these circumstances were not reported to have an effect on the extent to which nurses acted or experienced well-being.

Limitations and Future Directions

Though the present study contributed many new and interesting findings to the literatures on nursing and emotional labor, future research can improve and expand upon the present results in several ways. First, the data gathered for the present study were

mostly cross-sectional, precluding inferences of causality. Although theory informed the sequences of relationships that were considered and analyzed, an experimental design is necessary to decipher causal relationships. An example comes to mind from the findings on nursing quality, patient low-activation negative affect, and patient acuity. Although patient acuity and low-activation negative affect were presumed to precipitate nursing quality issues, it could be the case that nursing quality setbacks lead to an increased experience of patient depression and sadness.

Second, the present study gathered data from multiple sources (i.e., nurses, patients, the NDNQI), but most of the data were reported by nurses themselves. Future research could expand upon this procedure to incorporate even more perspectives. In particular, the perspective of the unit supervisor would be beneficial to better understand the ways in which display rules are communicated and reinforced on units. Organization executives might also be able to provide insight into organization-wide initiatives targeting the emotional labor process as well. Future research should strive to capture these alternative perspectives.

Additionall, the present research sampled employees from one profession working in one organization. The specificity of this sample raises questions of generalizability, as these results may not transfer to similar studies sampling individuals from other nursing professions (e.g., licensed practical nurses [LPNs], nurse practitioners) or other service industries in general (e.g., flight attendants, call center representatives). Although several findings paralleled established relationships in the extant literature on emotional labor (e.g., surface acting to decreased well-being), researchers are encouraged to explore the present findings in alternative samples of individuals performing emotional labor. To the

extent that nursing is a relatively standardized profession in terms of the "service" being provided, the present research may represent a conservative test of the relationships tested herein.

Lastly, patients represent just one type of interaction partner with whom nurses communicate at work on a regular basis. Patient families are included in a large portion of the interactions that nurses have with patrons (Lewis, 2005) and may influence the emotional labor process in ways different from patients. Researchers should consider the role of patient families as another influence on how frequently nurses feel they should manage their emotions at work and how they go about doing so.

Other avenues for future research to explore include replicating and expanding upon many of the new links found by the present research. For example, patient affect was found to have direct links to both unit-level and person-level display rules. The mechanisms through which patient affect comes to inform display rules have yet to be determined. It is possible that patient affect has effects on display rules through both bottom-up (interactions with patients → display rule perceptions → unit display rules) and top-down (unit-wide patient affect → unit display rules → display rule perceptions) pathways. A longitudinal design could help discern whether patient affect is more likely to influence display rules in a top-down sense (i.e., as a structural job demand), in a bottom-up sense (i.e., through interactions with individual patients and perceptions of display rules), or both.

Similarly, support was found for relationships between deep acting and nurse ill-being indicators. Past research has failed to support an association between deep acting and well-being (Goldberg & Grandey, 2007), even though research has supported a

positive link between deep acting and job performance (e.g., Grandey, 2003; Hülsheger & Schewe, 2011). In the present study, deep acting was related to well-being and ill-being indicators in the same directions as surface acting (i.e., positively to burnout and physical symptoms and negatively to vitality and job satisfaction). This result contrasts previously established findings that did not detect effects between deep acting and well-being. It suggests that although deep acting does produce the desired displays with more authenticity than surface acting (e.g., Grandey, 2003; Hülsheger & Schewe, 2011), it also produces the same resource-depleting effects of such acting (e.g., Baumeister et al., 1998; Gross, 2002). Researchers should explore the deep acting to well-being link in future studies, as contrasts between the present results and past research show that this link is far from clarified.

Although task cohesion, social cohesion, and unit tenure were expected to predict display rule strength based on support from previous studies (e.g., Berger & Luckmann, 1967; Klein et al., 2001; Schneider & Reichers, 1983), these variables were not found to be determinants of strength in the ways expected. The ability to detect effects on display rule strength was likely impacted by the low variability in display rule perceptions, but future research should explore these relationships in a sample of individuals with more varying perceptions of unit display rules to test this assumption.

Another interesting null finding was the lack of relationships from patient load to display rules. Patient load was considered to be an indicator of nurse busyness, and busyness in retail settings has been shown to lead to a decrease in displays of positive emotion (e.g., Pugh, 2001; Rafaeli & Sutton, 1990). Perhaps patient load is not as closely aligned with busyness as we would theorize—accounting for the lack of relationships

with display rules—or it may be the case that display rules are not the link between busyness and actual displays in this case. It is also possible that nurses are strongly compelled to prevent their job constraints from spilling over into the care they provide (e.g., shown in display rules); however, patient load was found to lessen nurse vitality and increase nurse physical symptoms. Thus, patient load should be more closely considered in future investigations to determine why and how this construct plays a role in the emotional labor process.

Practical Implications

Though the present study tested many relationships that were unconsidered previously by quantitative researchers, preliminary suggestions can be made for using these findings in practice. Patient outcomes (i.e., patient satisfaction and nursing quality) were found to be influenced directly by unit and nurse characteristics and indirectly through nurse perceptions of display rules. It may be tempting for organizations to attempt to increase patron satisfaction and service quality by taking a strict task focus, but the present research suggests that doing so could ignore an important piece of the puzzle. Nurse perceptions (e.g., unit-referent display rules) do account for unique variance in these outcomes. If organizations seek to improve their ratings of customer satisfaction and service quality, they may be able to do so by asking their employees what types of influences they perceive to be impacting these outcomes. Employee perceptions should not be ignored when determining how to improve customer reactions.

Likewise, organizations should strive to understand the complexity of the emotional labor process for its laborers. Stating expectations for emotional displays could spark a chain of experiences for the laborer, ultimately resulting in decreased well-being

for the laborer and decreased satisfaction for the customer. Customer satisfaction ratings are directly impacted by employee burnout. Organizations would benefit from considering how their policies and procedures influence organizational outcomes, not only because of the impact that such rules have on customer satisfaction but also because of their effects for employee well-being.

The bright side to the complex nature of the emotional labor is that there are many points for intervention—several variables show multiple relationships with other variables (e.g., surface acting), and intervening at such integral points in the process can have a chain reaction. For example, while it may not be possible to influence unit-level patient affect much, it may be possible to allow employees more autonomy in determining how they would like to manage their emotions on a day-to-day basis (e.g., Goldberg & Grandey, 2007). Doing so can enable employees to avoid the increased acting that typically occurs in response to display rules, as well as the decreased well-being that ultimately results from display rules and acting. It may also be possible, for example, to decrease the typical patient load for nurses by hiring more staff. When preemptive interventions are not possible, organizations still have the option of providing resources to emotional laborers to aid in their recovery and to facilitate resource restoration (Baumeister et al., 1998; Muraven & Baumeister, 2000). The establishment of employee assistance and advocacy programs can provide employees with much-needed resources for interrupting the compounding effects of performing emotional labor.

An important caveat is that the present research reminds us that there are many contextual factors that impact the emotional labor process. Organizations cannot bear the sole responsibility of providing an environment to their employees that supports

emotional harmony. Some factors that influence the emotional labor process are inherent in the occupations or even the industries in which laborers work. For example, by nature of the nursing profession, patient acuity will always be a factor to be managed. Nurses entering the occupation will not be able to avoid this job demand, and organizations would benefit from directing their efforts to another point of intervention instead.

Conclusion

Nursing is a complex profession in which various technical and emotional demands must be managed (Leininger, 1981). Nurses are required to complete minor medical procedures while also providing the emotional support that both patients and their families need (e.g., Lewis, 2005; Theodosius, 2008). Guidelines for nurses' emotional expressions with patients take the form of display rules (Ekman & Friesen, 1967, 1969), a concept that is shared to some extent by nurses in a given unit, though it can also be internalized by nurses in varying degrees (Theodosius, 2008). The present research suggests several factors that contribute to unit and individual display rule perceptions, including patient acuity, patient affect, and unit task cohesion. These perceptions, in turn, weigh heavily on the laborer as evidenced by increased regulation of one's emotions and detriments to well-being. Their effects are not limited to the laborer, however, as display rules also contribute to the satisfaction that patients express with their care. Although organizations would be well-advised to care about nurses' emotional labor experiences due to the evidence of their impact on service quality and customer satisfaction, they would also be advised to do so to ensure they are providing their employees with the support they need to meet the demanding standards of their occupation. In doing so, organizations may begin to alleviate the high rates of burnout

and dissatisfaction prevalent in the nursing occupation that often contribute to turnover (Aiken et al., 2001; Dahling, 2007; United States General Accounting Office, 2001), an outcome that would have widespread effects in a field that is expected to call for over five million new workers by the year 2020 (United States Department of Labor, 2012).

ENDNOTES

[1]Hypothesis 7 was also tested using $r_{wg(j)}$ as an indicator of display rule strength. Results for all three facets of integrative display rules were largely consistent with results using the standard deviation inverse as an indicator of agreement on unit display rules (empathy DRs: task cohesion, γ = 0.18, t = 1.73, p = .09; social cohesion, γ = -0.08, t = -1.36, p = .18; unit tenure, γ = -0.01, t = -1.18, p = .24), though the marginal negative relationship between task cohesion and negative display rule strength (i.e., inverse of standard deviation) became significant when using $r_{wg(j)}$ as an indicator of display rule strength (task cohesion, γ = -0.31, t = -6.65, p < .001; social cohesion, γ = -0.02, t = -0.19, p = .85; unit tenure, γ = 0.00, t = -0.10, p = .92). When using $r_{wg(j)}$ as an indicator of enthusiasm display rule strength, social cohesion was a positive predictor (γ = 0.16, t = 2.86, p < .01) compared to nonsignificant results using the standard deviation inverse as an indicator of enthusiasm display rule strength. Additionally, whereas unit tenure was negatively related to enthusiasm display rule strength when operationalized as the inverse of the standard deviation, this relationship was nonsignificant when $r_{wg(j)}$ was used (γ = -0.01, t = -0.76, p = .45). Results for task cohesion's effect on enthusiasm display rule strength were unchanged regardless of operationalization ($r_{wg(j),}$ γ = 0.02, t = 0.19, p = .85).

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APPENDICES

APPENDIX A

SCALES USED

Unit-Level Measures

Patient Affect
Please rate the frequency with which the typical patient on your unit appears to be feeling the following:

1. Happy
2. Angry
3. Tense
4. Excited
5. At ease
6. Enthusiastic
7. Calm
8. Anxious
9. Depressed
10. Frustrated
11. Fatigued
12. Relaxed
13. Worried
14. Sad

Patient Load
What is your patient load for direct care?

_____ patients

Patient Acuity
What is the typical patient acuity on your unit?

a. Low
b. Medium
c. High
d. Very High

Task Cohesion
Please indicate the extent to which you agree or disagree with the following statements about your job:

1. I'm unhappy with my unit's level of commitment. (R)

2. Nurses in my unit have conflicting aspirations for the unit's performance. (R)
3. This unit does not give me enough opportunities to improve my personal performance. (R)
4. Nurses in my unit are united in trying to reach their goals for performance.

Social Cohesion

Please indicate the extent to which you agree or disagree with the following statements about your job:

1. Some of my best friends are on this unit.
2. Nurses in my unit would like to spend time together outside of work hours.
3. Nurses in my unit do not stick together outside of work time. (R)
4. Nurses in my unit would rather go out on their own than get together as a group. (R)
5. For me, this unit is one of the most important social groups to which I belong.
6. Nurses in my unit rarely socialize together. (R)

Unit Tenure

How long have you been working on this unit?

____years ____months

Unit Display Rules

Within the nursing profession, there may be unit norms for how nurses show certain emotions when interacting with patients. These shared beliefs may vary across nursing functions in different units of a hospital. Please rate how often nurses in <u>your unit</u> are expected to:

1. Reassure patients who are distressed or upset.
2. Remain calm even when feeling astonished.
3. Express feelings of sympathy (i.e., saying you "understand" or you are sorry to hear about something).
4. Express friendly emotions (i.e., smiling, giving compliments, making small talk).
5. Hide anger or disapproval about something someone has done (e.g., an act that is distasteful).
6. Hide feelings of disgust.
7. Act excited and enthusiastic in interactions with patients.
8. Remain calm when feeling upset or distressed.

Individual-Level Measures

Display Rule Perceptions

To be effective in their jobs, nurses may have to show certain emotions to patients. Considering your specific job, please rate how often you are expected to:

1. Reassure patients who are distressed or upset.
2. Remain calm even when feeling astonished.
3. Express feelings of sympathy (i.e., saying you "understand" or you are sorry

to hear about something).
4. Express friendly emotions (i.e., smiling, giving compliments, making small talk).
5. Hide anger or disapproval about something someone has done (e.g., an act that is distasteful).
6. Hide feelings of disgust.
7. Act excited and enthusiastic in interactions with patients.
8. Remain calm when feeling upset or distressed.

Surface Acting
Sometimes at work, people cannot express what they truly feel. When inconsistencies occur between what is expected and what is felt, a certain amount of "effort" is required. How often do you…
1. COVER UP YOUR TRUE FEELINGS with patients
2. PRETEND TO HAVE FEELINGS that are expected but that you don't really feel with patients

Deep Acting
Sometimes at work, people cannot express what they truly feel. When inconsistencies occur between what is expected and what is felt, a certain amount of "effort" is required. How often do you…
1. MAKE AN EFFORT TO ACTUALLY FEEL the emotions you are expected to display with patients
2. CHANGE YOUR FEELINGS TO MATCH the emotions you are expected to display with patients

Showing Genuine Emotions
Sometimes at work, people cannot express what they truly feel. When inconsistencies occur between what is expected and what is felt, a certain amount of "effort" is required. How often do you…
1. SHOW YOUR GENUINELY FELT EMOTIONS, without modification with patients

Job Satisfaction
Thinking about your current job, how satisfied are you with each of the following:
1. The work hours.
2. The control you have over the work you do.
3. The routine activities of your job.
4. The job in general.

Burnout
For each of the following statements, please indicate how often you feel this way while you are at work:
1. I feel emotionally drained from my work.
2. I feel used up at the end of the workday.

3. I dread getting up in the morning and having to face another day on the job.
4. My work really puts a lot of strain on me.
5. I feel burned out from my work.
6. My work puts too much stress on me.
7. I feel I'm working too hard on my job.

Physical Symptoms

Please rate how often you experience each of the following symptoms or feelings:

1. Headaches
2. Stomachache/pain
3. Chest or heart pain
4. Coughing/sore throat
5. Faintness or dizziness
6. Stiff/sore muscles
7. Shortness of breath
8. Runny or congested nose

Vitality

For each of the statements below, please indicate how often you have felt this way during the past week. During the last week, how often did you…

1. Feel energized.
2. Feel alive and vital.
3. Feel alert and awake

APPENDIX B

IRB APPROVAL

NOTICE OF APPROVAL

May 20, 2010

Rebecca J. Erickson
Sociology Department
The University of Akron
Akron, Ohio 44325-1905

From: Sharon McWhorter, IRB Administrator

Re: IRB Number 20100506 "*Identity and Emotional Management Control in Health Care Settings*"

Thank you for submitting an IRB Application for Review of Research Involving Human Subjects for the referenced project. Your protocol represents minimal risk to subjects and has been approved under Expedited Category #7.

Approval Date:	May 20, 2010
Expiration Date:	May 6, 2011
Continuation Application Due:	May 20, 2011

In addition, the following is/are approved:

☐ Waiver of documentation of consent
☐ Waiver or alteration of consent
☐ Research involving children
☐ Research involving prisoners

Please adhere to the following IRB policies:

- IRB approval is given for not more than 12 months. If your project will be active for longer than one year, it is your responsibility to submit a continuation application prior to the expiration date. We request submission two weeks prior to expiration to insure sufficient time for review.
- A copy of the approved consent form must be submitted with any continuation application.
- If you plan to make any changes to the approved protocol you must submit a continuation application for change and it must be approved by the IRB before being implemented.
- Any adverse reactions/incidents must be reported immediately to the IRB.
- If this research is being conducted for a master's thesis or doctoral dissertation, you must file a copy of this letter with the thesis or dissertation.
- When your project terminates you must submit a Final Report Form in order to close your IRB file.

Additional information and all IRB forms can be accessed on the IRB web site at:
http://www.uakron.edu/research/orssp/compliance/IRBHome.php

Cc: James M. Diefendorff - Co PI
Cc: Stephanie Woods - IRB Chair

☒ Approved consent form/s enclosed

Office of Research Services and Sponsored Programs
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