

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/290511862>

# Underpaid but Satisfied: The Protective Functions of Security

Article in *Work and Occupations* · June 2016

DOI: 10.1177/0730888415625332

CITATIONS

16

READS

660

2 authors:



Atsushi Narisada

Saint Mary's University

8 PUBLICATIONS 36 CITATIONS

[SEE PROFILE](#)



Scott Schieman

University of Toronto

126 PUBLICATIONS 4,922 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



Religion, Control, and Well-Being [View project](#)



The Canadian Quality of Work and Economic Life Study (C-QWELS) [View project](#)

# Underpaid but Satisfied: The Protective Functions of Security

Work and Occupations  
2016, Vol. 43(2) 215–255  
© The Author(s) 2016  
Reprints and permissions:  
sagepub.com/journalsPermissions.nav  
DOI: 10.1177/0730888415625332  
wox.sagepub.com



**Atsushi Narisada<sup>1</sup> and  
Scott Schieman<sup>1</sup>**

## **Abstract**

Roughly half of American workers report feeling underpaid. Equity and distributive justice theory and research suggests that perceived underpayment is associated with more job dissatisfaction. However, no population-based research has examined the situational factors that may protect individuals from the harmful effects of perceived underpayment. Using data from a national sample of American workers, this study examines the extent to which forms of security modify the association between perceived underpayment and job dissatisfaction. Results indicate that while perceived underpayment is associated with more job dissatisfaction, each of the following attenuates that association: job security, financial security, and employment in the public sector. This provides a novel theoretical elaboration and extension.

## **Keywords**

perceived underpayment, job dissatisfaction, job security, financial security, public sector, equity theory, distributive justice

---

<sup>1</sup>University of Toronto, ON, Canada

### **Corresponding Author:**

Atsushi Narisada, Department of Sociology, 725 Spadina Avenue, University of Toronto, Toronto, ON M5S 2J4, Canada.

Email: a.narisada@mail.utoronto.ca

In his classic thesis on equity theory, Adams (1965) argued that individuals in exchange relationships pursue a balance between inputs and outcomes in comparison to similar others. An equitable exchange is perceived when the ratio between inputs and outcomes is equal to those individuals who are similar in one or more attributes. By contrast, individuals perceive an *inequitable* exchange when there is any discrepancy between their ratio of inputs and outcomes compared with similar others. Adams also argued that perceived equity and inequity are closely associated with feelings of satisfaction. While satisfaction is maximized when individuals perceive equity in social exchange, feelings of dissatisfaction arise when individuals experience inequity. Adams' study was a foundational piece that inspired a vast literature on the antecedents and consequences of organizational distributive justice and the perceived fairness of the distribution of rewards and outcomes in the workplace (Colquitt, Greenberg, & Zapata-Phelan, 2005).

In this article, we take the most typically investigated form of distributive justice evaluation—perceived underpayment—as the starting point in our analysis. While the negative consequences of perceived underpayment for dissatisfaction have been well documented since the early works by Adams (1965), Homans (1961), and Walster, Berscheid, and Walster (1973), to our knowledge no *population-based* research has examined the situational factors that might protect individuals from the harmful consequences of perceived underpayment. We therefore analyze data from a national sample of American workers to investigate the association between perceived underpayment and job dissatisfaction—the latter being a salient work attitude that is associated with outcomes such as job performance and poor health (Faragher, Cass, & Cooper, 2005; Judge, Thoresen, Bono, & Patton, 2001; Spector, 1997). We specifically expand the scope of prior research by examining the ways that two core forms of security—job security and financial security—modify the relationship between perceived underpayment and job dissatisfaction.

This topic is important for several reasons. First, a large proportion of American workers perceive underpayment. Recent surveys indicate that approximately half of American workers report being underpaid (Jacobe, 2008; Saad, 2010). Second, because perceived underpayment represents a particularly powerful workplace stressor that fosters feelings of dissatisfaction, it is important to identify the conditions that neutralize the link between perceived underpayment and job dissatisfaction. We therefore address the following questions: (a) Compared with individuals who report being paid appropriately, do those who perceive

underpayment report more job dissatisfaction? (b) If so, do job security and financial security moderate that association? In supplemental analyses, we also evaluate whether being employed in the public sector modifies the link between perceived underpayment and job dissatisfaction—above and beyond any advantages in job or financial security that such employment provides.

## Theoretical Background

### *Perceived Underpayment and Job Dissatisfaction*

According to Homans (1961), “[s]atisfaction varies when [individuals] fall short of getting what they deserve, for, . . . distributive justice is a principal ingredient of satisfaction” (p. 265). Consistent with early theorizing, studies document that distributive injustice in the workplace is associated with more job dissatisfaction (Clay-Warner, Reynolds, & Roman, 2005; for reviews, see Cohen-Charash & Spector, 2001; Colquitt, Conlon, Wesson, Porter, & Ng, 2001; Colquitt et al., 2013).<sup>1</sup> The analysis of perceived underpayment’s connection to job dissatisfaction is especially appropriate because perceived unfairness in the work role likely influences subjective evaluations of the quality of that role. Given the centrality of pay as an aspired job attribute (Clark, 1997, 2001; Kalleberg & Marsden, 2013), perceived underpayment may be especially pertinent to feelings of dissatisfaction. Further, while a variety of factors undoubtedly influence job dissatisfaction, Clay-Warner et al. (2005) find that distributive justice—that is, an index that includes a measure of fair distribution of pay—is associated with job satisfaction *net of* personal, work, and organizational characteristics in a national sample American workers. Several literature reviews and meta-analyses also demonstrate that job dissatisfaction is related to labor market behavior like reduced job performance (Judge et al., 2001; Spector, 1997), self-concepts like lower self-esteem and sense of control (Judge & Bono, 2001), and mental health problems like burnout and distress (Faragher et al., 2005).

We augment equity theory’s proposition that inequity fosters dissatisfaction by conceptualizing perceived underpayment as a stressor. By doing so, we seek to highlight perceived underpayment’s potential chronic nature and thus its impact on individuals’ sense of dissatisfaction. An important dimension by which sociologists have classified stressors relate to its time course—that is, from the most discrete life event stressors to the more prolonged and insidious chronic stressors

(Wheaton, 1999a). The latter are often tied to structured and durable roles in society—such as the work role—and have a profound impact on individuals' well-being (Pearlin, 1983). Of all the stressors that may arise in the work role, the perceived injustice of one's pay may have a particularly profound influence on one's sense of dissatisfaction. Wheaton (1999b) identifies *underreward*, or “reduced outputs from a relationship relative to inputs, as in lower pay for a job than others with the same qualification,” as a central element of chronic stress (p. 184). Given that one's pay is usually determined by a superior or an organization's policy, the experience of underpayment may be a condition that continues for a prolonged duration of time and that cannot be easily altered. This conceptualization of perceived underpayment as a stressor is consistent with scholars who have regarded forms of perceived unfairness and injustice as stressors (Ford, 2014; Fox, Spector, & Miles, 2001; Robbins, Ford, & Tetric, 2012). Taken together, we extrapolate from these ideas to propose the following:

**Hypothesis 1 (H1):** Compared with those who perceive appropriate pay, individuals who perceive underpayment will tend to report more job dissatisfaction.

### *The Protective Functions of Security*

When workers feel underpaid, why might some of them still maintain a sense of satisfaction with their jobs? We assess the situational factors that potentially modify the expected association between perceived underpayment and job dissatisfaction. According to Hegtvedt (2006), “[s]ituational factors affect beliefs about what is just, perceptions of injustice, and *reactions to injustice*” (p. 62, [emphasis added]). This suggests that the relationship between perceived underpayment and job dissatisfaction might depend on the conditions in which individuals perceive underpayment. Previous studies have investigated moderators including commitment to work organization (Brockner, Tyler, & Cooper-Schneider, 1992), employee rank in the organizational hierarchy (Begley, Lee, & Hui, 2006), and personal value orientations (Lipponen, Olkkonen, & Myyry, 2004) in the association between justice perceptions and work-related outcomes. However, the moderating functions of different forms of security have received little attention. We propose that perceived underpayment should have a weaker association with job dissatisfaction for workers who experience greater security in both

their jobs and financial circumstances. These forms of security should offset or compensate for the discontentment associated with perceived underpayment.

*Job security.* Workers who experience greater job security might not experience the same degree of “sting” associated with perceived underpayment as those who feel insecure in their jobs. The economic climate of recent decades—characterized by shifts toward flexible production systems and increased organizational downsizing and restructuring—has increased precarious work conditions and decreased security in many occupations (Kalleberg, 2011). Rising unemployment, involuntary job loss, and reduced job tenure have been coupled with employees’ increased sense of job insecurity (Fullerton & Wallace, 2007; Kalleberg, 2011). The scarcer job security is, the more coveted it might become. Analyses of trends in work values reveal that the importance that workers place on job security increased from 1973 to 2006 (Kalleberg & Marsden, 2013). Likewise, the 2008 National Study of the Changing Workforce (NSCW) found that 88% of American workers characterize the following statement as *very* or *extremely important*: “Having a job that I don’t have to worry about losing” (Families and Work Institute, 2008).

The recent economic volatility has contributed to a burgeoning literature on the emotional consequences of perceived job security—that is, “the perceived stability and continuance of one’s job as one knows it” (Probst, 2003, p. 452). Studies document that perceived job insecurity is associated with unfavorable outcomes such as job dissatisfaction, reduced organizational commitment, diminished sense of control, and poorer health (De Witte & Näswall, 2003; Ferrie, Shipley, Newman, Stansfeld, & Marmot, 2005; Glavin, 2013; Sverke, Hellgren, & Näswall, 2002). While previous research has examined the consequences of job security *or* perceived justice, the conceptual and empirical contributions embedded in these two literatures have remained separate. We contend that new insights and theoretical integration can be gained from a greater synthesizing of these literatures in ways that inform our understanding of how job security and perceived underpayment intersect to influence job dissatisfaction.<sup>2</sup>

One framework that provides a rationale for positioning job security as a potential moderator is the Job-Demands Resources (JD-R) model (Bakker & Demerouti, 2007; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001)—a conceptual approach to examine how job demands and job resources influence employee well-being. Job demands refer to

“those physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological (i.e., cognitive or emotional) effort and are therefore associated with physiological and/or psychological costs” (Schaufeli & Bakker, 2004, p. 296). Job resources refer to “those physical, psychological, social, or organizational aspects of the job that either/or (1) reduce job demands and the associated physiological or psychological costs; (2) are functional in achieving work goals; (3) stimulate personal growth, learning, and development” (Schaufeli & Bakker, 2004, p. 296). The first statement—that job resources reduce the psychological costs of job demands—indicates that demands and resources interact to affect well-being; this is a central tenet of the JD-R model (Bakker, Demerouti, & Euwema, 2005; Demerouti & Bakker, 2011).

Conventional conceptions of job demands have included elements like job pressure, but perceived injustice and unfairness can also be characterized as demands (Robbins et al., 2012). Perceived underpayment is based on the incongruence between one’s inputs and the pay received compared with similar others—and it is associated with psychological costs. Given the centrality of pay as an aspired job attribute, the evaluation of underpayment might pervade and influence one’s overall appraisal of a job. Similarly, while the conventional conceptualizations of job resources have included those such as autonomy, researchers have also classified job security as a key resource (Bakker & Demerouti, 2007; Demerouti & Bakker, 2011). The conceptualization of perceived underpayment as a “demand” and job security as a “resource” is therefore consistent with the notion that the JD-R model is a flexible framework that is “heuristic in nature,” and “assumes that *any* demand and *any* resource may affect employee health and well-being” (Schaufeli & Taris, 2014, p. 44). Collectively, we integrate these ideas and apply the JD-R model to hypothesize that job security should weaken the association between perceived underpayment and job dissatisfaction.

Moving beyond that basic hypothesis, we further draw upon a recent review by proponents of the JD-R model who cite an important limitation of the model: It provides less insight into “why *particular* demands interact with *particular* resources” (see Schaufeli & Taris, 2014, p. 55). The contention is that “additional theoretical frameworks” are needed in order to “explain the underlying psychological processes that are involved given the specific demands, resources, and outcomes that are included in the JD-R model” (Schaufeli & Taris, 2014, p. 55). Inspired by this call for greater theoretical integration, we draw upon Maslow’s

(1943, 1954) classic ideas about a hierarchy of needs in our efforts to explain why job security may be a particularly important protective resource. Maslow proposed that all human beings have five basic needs: physiological, safety, love, esteem, and self-actualization. He argued that these needs “arrange themselves in hierarchies of prepotency . . . the appearance of one need usually rests on the prior satisfaction of another more pre-potent need” (Maslow, 1943, p. 370). Individuals therefore attempt to first satisfy more fundamental needs like safety before less basic needs like esteem and self-actualization arise. Maslow (1954) cited the relevance of these ideas for the work context: “We can perceive the expressions of safety needs . . . in such phenomena as, for instance, the common preference for a job with tenure and protection” (p. 87). Thus, his idea of “prepotency” may come to signify that job security—as an indicator of a safety need—should be more fundamental relative to “higher” needs related to job control (see Fried et al., 2003). The juxtaposition of Maslow’s theory alongside the JD-R model therefore serves to distinguish among different job resources and suggests that job security might function as a more powerful buffering resource compared with other features of job control like authority and autonomy.

This analytical stance on its own suggests that job security should function as a more potent moderator compared with other job resources in the presence of *any job demand* and in *any economic context*. This is a curious possibility given the scarce research on the moderating functions of job security. However, we argue that the prepotency of security (using Maslow’s terminology) may be elevated over needs related to job authority, job autonomy, and decision latitude especially when (a) individuals feel underpaid and (b) in a socioeconomic context characterized by rising insecurity. As mentioned earlier, pay and security are central aspects of a job, and their importance to employees (relative to other job attributes) has been increasing in recent decades (Kalleberg & Marsden, 2013). Perceived underpayment therefore threatens a core job value. From that perspective, the safety associated with greater job security represents an especially potent resource that may help to neutralize perceived underreward. In addition, the economic trend toward insecurity and increasing uncertainty about stable employment may provide another context in which the prepotency of security is elevated over needs for other “higher” job resources. Stated simply, those who evaluate their situation as “I’m underpaid, but my job is secure” may not experience as much job dissatisfaction compared with those who evaluate their situation as “I’m underpaid, but I have authority

(or autonomy).” Extrapolating from this, we compare the moderating effects of job security (a pre-potent need) relative to other job resources that might be regarded as esteem or self-actualization needs. Collectively, these arguments provide the basis for the following:

**Hypothesis 2 (H2):** The positive association between perceived underpayment and job dissatisfaction should be weaker among workers who experience greater job security.

**Hypothesis 2A (H2A):** Any observed moderating effect of job security should be stronger than the moderating effects of other job-related resources (i.e., job authority, job autonomy, and job decision latitude).

*Financial security.* Security outside of the job may also provide protection. For example, among individuals who feel financially secure, perceived underpayment might be less strongly associated with job dissatisfaction. Financial security reflects a sense that one has sufficient resources to afford basic necessities such as food, clothes, and medical care; at the end of each month, there is usually some money left over (Pearlin, Menaghan, Lieberman, & Mullan, 1981; Pudrovskaya, Schieman, Pearlin, & Nguyen, 2005). While freedom from financial strain reflects material prosperity and security, insufficient financial resources can threaten well-being (Mirowsky & Ross, 2003). In this regard, income and financial security are related—but not synonymous. Research shows, for example, that financial difficulties can undermine health *net* of income (Ross & Wu, 1995). This suggests that there can be variations in levels of financial security even at the same level of income and that financial security may be a reflection of differences in economic resources that are not captured by income alone.

Financial insecurity might elevate the salience of the work role. For individuals who struggle to pay bills and acquire necessities, the compensation that comes with work is important for managing financial hardships. Thus, among financially insecure individuals, the appraisal of underpayment might have a stronger link to dissatisfaction. This perspective is consistent with the uncertainty management theory (Van den Bos & Lind, 2002), which proposes that fairness is especially important for individuals who are faced with uncertain situations. In other words, “[u]ncertainty is a powerful moderating variable for fairness effects, such that fairness effects are magnified in proportion to the level of uncertainty experienced” (Lind & Van den Bos, 2002, p. 216).

Fairness allows individuals to cope with uncertainty and make uncertain situations seem more manageable (Lind & Van den Bos, 2002; Van den Bos & Lind, 2002). Greater financial insecurity represents greater need but also reflects greater uncertainty about the future. Individuals who feel financially insecure worry about whether they will be able to put food on the table, and whether they will be able to afford the next housing or medical expense. Evaluations about pay may be more consequential for job dissatisfaction among the financially insecure compared with the financially secure. Based on these ideas, we test the following:

**Hypothesis 3 (H3):** The positive association between perceived underpayment and job dissatisfaction should be weaker for individuals who report more financial security.

### *A Supplemental Question: Public Sector Employment as Another Form of Security*

Beyond the assessments of job and financial security, we also evaluate a supplemental question about the influence of employment in the public sector. Four main points about the link to security and how it might neutralize the association between perceived underpayment and job dissatisfaction motivate our comparison of public versus private sector employment. First, public sector employees have historically had higher levels of unionization compared with those in the private sector (Kalleberg, 2011). In 2005 (when the data for our study were collected), 36.5% of public sector employees in the United States were unionized compared with only 7.8% of private sector employees (U.S. Bureau of Labor Statistics, 2005). The globalization of markets, increased price competition, and the rise in nonstandard work arrangements, combined with ideological shifts toward greater individualism, have led to a steady decline in the percentage of unionized private sector employees since the 1950s (Kalleberg, 2011). By contrast, the percentage of unionized public sector employees has been relatively stable since the 1980s (Cornfield & Fletcher, 2001). Union membership provides workers with resources to negotiate the terms of employment contracts in a collective bargaining process. The fact that a higher proportion of public sector employees are union members implies the potential for greater collective power than private sector employees to bargain for important attributes like pay, job security, and fringe benefits (Kalleberg, 2011).

Second, previous research indicates that public sector workers have higher job security in comparison to private sector workers. Analyzing data from the U.S Census Bureau's Current Population Surveys and the Displaced Worker Surveys, Farber (2005, 2009) finds that average job tenure is higher for public sector workers than private sector workers. Moreover, the job loss rate among public sector employees is one fourth of that among private sector employees. These objective indicators are consistent with survey findings about perceptions of job security. For example, the 2008 NSCW survey asked: "How likely is it that during the next couple of years you will lose your present job and have to look for a job with another employer?" Among public sector workers, 86% reported either "not too likely" or "not at all likely," in comparison to 69% of private sector workers (Families and Work Institute, 2008; also see: Clark & Postel-Vinay, 2009; Luechinger, Meier, & Stutzer, 2010).

Third, public sector employees tend to have more alternative non-wage rewards that provide financial security. For American workers, employers are a significant source of fringe benefits, including health insurance and retirement benefits (Kalleberg, 2011). Employment-based health insurance is the most common form of health coverage for the nonelderly, and employee-based retirement benefits is a crucial part of retirement income to supplement benefits from Social Security (Copeland, 2006; Fronstin, 2006). Access to these benefits, however, is unequally distributed between public and private sector workers. Data from the 2005 Current Population Surveys demonstrate that 74.5% of public sector workers had employee-based health benefits in their own name, compared with 53.7% of private sector workers. Moreover, 6.4% of public sector workers were uninsured, compared with 20.2% of private sector workers (Fronstin, 2006). Those same data also show that 74.8% of workers in the public sector workers participated in an employee-based retirement plan, compared with only 41.7% of workers in the private sector (Copeland, 2006). Taken together, we argue that greater union membership, job security, and access to alternative non-wage benefits provide more security for public sector workers compared with private sector workers. If security offsets the effects of perceived underpayment, then public sector employees might not experience as much dissatisfaction related to perceived underpayment compared with private sector employees. In other words, perceived underpayment should be less strongly associated with job dissatisfaction for public sector employees.<sup>3</sup>

The fourth reason for a potentially weaker link between perceived underpayment and dissatisfaction among public sector workers involves

work values: Some research indicates that public sector workers place less salience on high pay and instead give greater weight to helping others and contributing to society compared with private sector workers (Frank & Lewis, 2004; Karl & Sutton, 1998; Lewis & Frank, 2002). If pay is not the primary work gratification for public sector employees, perceived underpayment may not represent as serious of an affront to their identity or values. In turn, lower expectations about pay might defuse the discontentment of underreward. Collectively, these four points provide the basis for our final hypothesis:

**Hypothesis 4 (H4):** The positive association between perceived underpayment and job dissatisfaction should be weaker among individuals employed in the public sector—but that might be partly due to occupational sector differences in job and financial security.

## Methods

### Sample

We analyze data from the 2005 Work, Stress, and Health Study (WSH), a national sample of the U.S. labor force (Schieman, 2010; Schieman, Milkie, & Glavin, 2009; Schieman & Reid, 2008, 2009). Interviews were conducted by telephone in English between February and August 2005. We use the following description to obtain the sample: A list-assisted random digit dialing (RDD) selection drawn proportionally from all 50 states from GENESYS Sampling Systems was used. The sampling approach employed the List + 1 method, which tends to yield a higher proportion of productive numbers (Lepkowski, 1988). List-assisted RDD is widely accepted now by most social survey research organizations as a cost-effective alternative to the pure RDD methods originally developed by Waksberg (1978). List-assisted RDD increases the probability of residential numbers while minimizing the biases often associated with non-traditional RDD techniques. The final sample was based on the following criteria: (a) telephone numbers for residential households, (b) households agreeing to answer screening questions, (c) successfully screened households with one or more employed adults, and (d) eligible households with a subsampled adult who agreed to participate in the interview (Schieman & Reid, 2009, p.1618). To be eligible to participate in the study, individuals had to be age 18 or older and in the paid labor force. Of the total number of individuals who were eligible (2,544), 71% (1,800) participated

and completed the full interview. In our analyses, we followed the approach of recent research (see Schunck, Sauer, & Valet, 2015) that excludes individuals who are self-employed—that is, people who pay themselves—because the processes associated with perceptions of pay might be quite distinct from those who are paid by an employer. This step provides us with a final analytical sample of 1,498 cases.<sup>4</sup>

## Measures

**Perceived underpayment.** One item asks respondents to evaluate the experience and extent of underpayment: “When you think about the pay you receive at your job, do you feel underpaid a lot, underpaid a little, paid about right, overpaid a little, or overpaid a lot?” We excluded individuals who report being “overpaid a little” ( $n = 58$ ) and “overpaid a lot” ( $n = 7$ ) because the cell sizes for these categories are too small to conduct meaningful analyses, especially for some interaction categories (e.g., being overpaid and feeling insecure financially). We focus instead on those scenarios with sufficient data to more accurately compare individuals who feel “underpaid a little” or “underpaid a lot” with individuals who report feeling “paid about right.” Individuals’ reported deviation from feeling appropriately paid expresses an awareness of being underrewarded in one’s job—that is, either slightly or severely underpaid.

**Job dissatisfaction.** One item asks: “How satisfied do you feel with your job?” The response choices are (1) *not at all*, (2) *somewhat*, (3) *quite a bit*, and (4) *very much*. We reverse coded the item so that higher values indicate greater job dissatisfaction. While having multiple items would be ideal, many published studies have successfully used a single-item measure (e.g., Cheng, Mauno, & Lee, 2014; Henry, 2011; Sandberg et al., 2013), while others demonstrate that this single-item measure is reliable, valid, and empirically corresponds with more complex indices of job satisfaction (Clark, 1998; Wanous, Reichers, & Hudy, 1997).

**Perceived job security.** Respondents were asked: “In the next 2 years, how likely is it that you will lose your job or be laid off?” The response categories are (1) *not at all likely*, (2) *somewhat likely*, and (3) *very likely*. Similar measures have been asked in population-level surveys such as the General Social Survey and the NSCW and have been used in recently published research (e.g., Burgard, Brand, & House, 2009; Fullerton & Wallace, 2007; Glavin & Schieman, 2014). For analyses, we coded individuals who reported “not at all likely” as representing the

*high job security* group, and coded those who reported “somewhat likely” and “very likely” as representing the *low job security* group.

**Financial security.** Several items are used to assess financial security: “During the last year, how often did you . . .”: “have trouble paying the bills,” “not have enough money to buy food, clothes, or other household goods,” “not have enough money to pay for medical care.” Response choices are (1) *never*, (2) *rarely*, (3) *sometimes*, and (4) *frequently*. A fourth item asks: “How do your finances usually work out by the end of the month? Do you have (1) “a lot of money left over,” (2) “a little money left over,” (3) “just enough to make ends meet,” or (4) “not enough to make ends meet.” We reverse coded and then averaged these items to create the financial security index ( $\alpha = .82$ ). These items have been used extensively in other studies that examine the effects of financial well-being (Mirowsky & Ross, 2003; Pudrovska et al., 2005). The point biserial correlation coefficient between financial security and job security is positive and significant but relatively weak ( $r_{pb} = .117, p < .001$ ).

**Job authority.** Job authority is measured with an index of four items with *yes* or *no* response choices: (1) “Do you set the rate of pay received by others?” (2) “Do you have the authority to hire or fire others?” (3) “Do you supervise or manage anyone as part of your job?” and if yes to the last question, (4) “Do any of those people supervise anyone else?” We summed the responses (*no* = 0, *yes* = 1) to create the job authority index.

**Job autonomy.** One item asks: “How often does someone else decide how you do your job?” The response choices are (1) *never*, (2) *rarely*, (3) *sometimes*, and (4) *frequently*. We reverse coded the item so that higher values indicate greater job autonomy.

**Job decision latitude.** We assess job decision latitude with two items: “How often do you make decisions on what needs to be done?” and “How often do you have the chance to solve problems?” The response choices are (1) *never*, (2) *rarely*, (3) *sometimes*, and (4) *frequently*. The items are averaged to create the index ( $\alpha = .66$ ).

**Public versus private sector.** We compare those who work in the public sector or nonprofit sector with those who work in the private sector.

**Control variables.** All analyses adjust for demographic attributes, socioeconomic status, and job characteristics in order to isolate the focal

association and hypothesized moderating effects; this step rules out potential confounding effects. Gender (men = 0, women = 1), race (non-White = 0, White = 1), age (coded in years), marital status (non-married = 0, married = 1), and number of children younger than age 18 living at home are typically adjusted for in research that investigates pay perceptions and job satisfaction (Bersoff & Crosby, 1984; Clark, 1996; Clay-Warner et al., 2005; Roxburgh, 1999). In addition, the adjustment for socioeconomic status is essential because studies have linked education (Ross & Reskin, 1992), higher income (Judge, Piccolo, Podsakoff, Shaw, & Rich, 2010), and occupation (Smith, 2007) to job satisfaction. Education is coded as “less than high school,” “high school degree,” “some college or associates degree,” “bachelor’s degree, and “post-graduate degree (MA/PhD),” with “high school degree” as the reference category. Personal income is measured as total pretax income from 2004. Occupation is assessed with open-ended responses about job title and main duties. Responses were coded into the following five categories in accordance with the Bureau of Labor Statistics Codes. Professional (managerial and professional specialty occupations) is compared with administrative (technical, sales, and administrative support occupations), service (service occupations), craft (precision production, craft, and repair occupations), and labor (operators and laborers). Finally, we also include controls for job demands, noxious work, and long work hours because these attributes are related to perceptions of distributive justice and employee well-being (Ford & Huang, 2014). Job demands is measured with an index of six items of how frequently individuals have received too many demands from supervisors, subordinates, coworkers, customers, or clients (if relevant). Noxious work is measured with three items that ask respondents how frequently the workplace is dirty, noisy, or dangerous. Work hours are coded as (1) < 40 hours, (2) 40–49 hours, and (3) 50 or more hours.

### *Plan of Analyses*

We first present descriptive statistics in Table 1. Then, in Table 2, we present the findings from a series of ordinal logistic regression models that examine the relationship between perceived underpayment and job dissatisfaction, and the moderating effects of job and financial security.<sup>5</sup> Model 1 tests Hypothesis 1—that is, perceived underpayment is associated with greater job dissatisfaction. Model 2 tests Hypothesis 2—the

**Table 1.** Unweighted Descriptive Statistics ( $N = 1,498$ ).

	Mean or proportion	SD	Range
Job dissatisfaction			
Very much satisfied	0.389	—	0–1
Quite a bit satisfied	0.296	—	0–1
Somewhat satisfied	0.256	—	0–1
Not at all satisfied	0.059	—	0–1
Perceived underpayment			
Appropriately paid	0.415	—	0–1
Slightly underpaid	0.361	—	0–1
Severely underpaid	0.224	—	0–1
Forms of security			
Low job security	0.198	—	0–1
High job security	0.802	—	0–1
Financial security	3.115	0.745	1–4
Occupational sector			
Private sector	0.636	—	0–1
Public sector	0.244	—	0–1
Nonprofit sector	0.120	—	0–1
SES controls			
Less than high school	0.053	—	0–1
High school degree	0.278	—	0–1
Some college/associates degree	0.321	—	0–1
Bachelor's degree	0.212	—	0–1
Postgraduate degree	0.136	—	0–1
Personal income (thousands)	41.130	35.809	1.2–400
Not a professional	0.716	—	0–1
Professional	0.284	—	0–1
Job characteristics controls			
Job authority	0.783	1.117	0–4
Job autonomy	2.495	0.980	1–4
Job decision latitude	3.544	0.662	1–4
Job demands (standardized)	0.040	0.808	–1.214–4.715
Noxious work	2.492	0.841	1–4

*(continued)*

**Table 1.** (continued)

	Mean or proportion	SD	Range
Work < 40 hours/week	0.246	—	0–1
Work 40–49 hours/week	0.495	—	0–1
Work 50 + hours/week	0.260	—	0–1
Basic demographic controls			
Female	0.603	—	0–1
Age	43.031	13.074	18–94
White	0.726	—	0–1
Married	0.543	—	0–1
Children at home	0.800	1.032	0–3

moderating effect of job security—by including the Perceived underpayment  $\times$  Job security interaction term. We also test Hypothesis 2A (a comparison of the moderating effects of job authority, autonomy, and decision latitude) by including the following interaction terms: Perceived underpayment  $\times$  Job authority; Perceived underpayment  $\times$  Job autonomy; and Perceived underpayment  $\times$  Job decision latitude (reported in Table A3). We then test Hypothesis 3 in Model 3 of Table 2 with the Perceived underpayment  $\times$  Financial security interaction term. Finally, we test Hypothesis 4 by including the Perceived underpayment  $\times$  Public sector interaction term, net of all control variables, and both job and financial security (reported in Table 3). In all analyses, we center continuous variables prior to creating the interaction terms to reduce multicollinearity (see Mirowsky, 2013).

We estimate our models using STATA 13's *ologit* command with robust standard errors. To facilitate the interpretation of interaction effects, we provide figures that plot the predicted probabilities of reporting “not at all satisfied” and “somewhat satisfied.” The predicted probabilities were obtained using the *margins* command. For the interaction between perceived underpayment and job security, we first ran a model that includes (as one example) the Perceived underpayment  $\times$  Job security interaction term. Then, we obtained the predictive margins of “appropriately paid,” “slightly underpaid,” and “severely underpaid” at low and high job security, holding other covariates at their mean values.

**Table 2.** Ordinal Logistic Regression Coefficients Predicting Job Dissatisfaction: Testing the Moderating Functions of Job and Financial Security (N = 1,498).

	Model 1	Model 2	Model 3
<b>Perceived underpayment</b>			
Slightly underpaid <sup>a</sup>	.519*** (.113)	.549* (.270)	.547*** (.114)
Severely underpaid <sup>a</sup>	1.173*** (.150)	1.961*** (.320)	1.088*** (.155)
<b>Forms of security</b>			
Job security	-.384** (.129)	-.158 (.224)	-.385** (.129)
Financial security	-.315*** (.078)	-.313*** (.078)	-.133 (.121)
<b>Interactions</b>			
Job security × Slightly underpaid		-.017 (.295)	
Job security × Severely underpaid		-.972** (.345)	
Financial security × Slightly underpaid			-.083 (.155)
Financial security × Severely underpaid			-.535** (.184)
<b>Occupational sector</b>			
Public <sup>b</sup>	-.713*** (.126)	-.713*** (.126)	-.709*** (.126)
Nonprofit <sup>b</sup>	-.182 (.169)	-.175 (.169)	-.187 (.166)
<b>SES controls</b>			
Less than high school <sup>c</sup>	-.142 (.274)	-.138 (.272)	-.162 (.274)
Some college/associates degree <sup>c</sup>	.272* (.136)	.274* (.136)	.273* (.137)
Bachelor's degree <sup>c</sup>	.565*** (.156)	.552*** (.157)	.561*** (.156)
Postgraduate degree <sup>c</sup>	.564** (.199)	.548** (.199)	.560** (.198)
Personal income (logged)	.259** (.088)	.270** (.088)	.257** (.088)
Professional <sup>d</sup>	-.167 (.132)	-.147 (.132)	-.153 (.131)
<b>Job characteristics controls</b>			
Job authority	-.052 (.046)	-.054 (.046)	-.057 (.046)
Job autonomy	-.179*** (.055)	-.183*** (.055)	-.179*** (.055)
Job decision latitude	-.578*** (.091)	-.574*** (.090)	-.564*** (.091)
Job demands	.247*** (.068)	.240*** (.068)	.247*** (.068)
Noxious work	.212*** (.063)	.212*** (.063)	.233*** (.063)
Work 40–49 hours/week <sup>e</sup>	-.242 (.127)	-.245 (.128)	-.244 (.127)
Work 50+ hours/week <sup>e</sup>	-.433** (.165)	-.437** (.164)	-.436** (.165)

(continued)

**Table 2.** (continued)

	Model 1	Model 2	Model 3
Basic demographic controls			
Women	-.097 (.112)	-.086 (.112)	-.078 (.111)
Age	-.019*** (.004)	-.019*** (.004)	-.019*** (.004)
White	.097 (.124)	.108 (.125)	.105 (.124)
Married	-.183 (.107)	-.193 (.107)	-.185 (.107)
Children at home	-.047 (.053)	-.046 (.053)	-.047 (.053)
Cut 1	-.716	-.519	-.678
Cut 2	.740	.940	.783
Cut 3	3.058	3.295	3.134
<i>df</i>	24	26	26
Wald Chi <sup>2</sup>	310.330	334.590	334.320
Pseudo R <sup>2</sup>	.091	.094	.094

Note. Robust standard errors in parentheses.

<sup>a</sup>Compared with paid appropriately; <sup>b</sup>Compared with private sector; <sup>c</sup>Compared with High School degree; <sup>d</sup>Compared with nonprofessionals; <sup>e</sup>Compared with <40 hours/week.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$  (two-tailed test).

## Results

The basic descriptive statistics in Table 1 indicate that 5.9% and 25.6% of workers are “not at all satisfied” and “somewhat satisfied” with their jobs, respectively; 58.5% report being either slightly or severely underpaid; 19.8% report low perceived job security; the mean financial security score is 3.115; and 24.4% are employed in the public sector. We also describe gender, race, and education differences in perceived underpayment, job security, financial security, and occupational sector in Table A2.

In the multivariate analyses, Model 1 of Table 2 shows that workers who feel slightly or severely underpaid are more likely to be dissatisfied with their jobs compared with those who are paid appropriately, net of socioeconomic status, job characteristics, and basic control variables—this pattern supports Hypothesis 1. Workers with more job security and financial security, and those in public sector jobs, are less dissatisfied with their jobs than their respective counterparts.

**Table 3.** Ordinal Logistic Regression Coefficients Predicting Job Dissatisfaction: Testing the Moderating Function of Public Sector Employment ( $N = 1,498$ ).

Perceived underpayment		
Slightly underpaid <sup>a</sup>	.718***	(.138)
Severely underpaid <sup>a</sup>	1.441***	(.190)
Occupational sector		
Public <sup>b</sup>	-.232	(.180)
Nonprofit <sup>b</sup>	-.058	(.320)
Interactions		
Public × Slightly underpaid	-.639*	(.266)
Public × Severely underpaid	-1.039***	(.324)
Nonprofit × Slightly underpaid	-.442	(.391)
Nonprofit × Severely underpaid	.068	(.456)
Forms of security		
Job security	-.390**	(.130)
Financial security	-.312***	(.078)
SES controls		
Less than high school <sup>c</sup>	-.172	(.274)
Some college/associates degree <sup>c</sup>	.253	(.137)
Bachelor's degree <sup>c</sup>	.571***	(.156)
Postgraduate degree <sup>c</sup>	.577**	(.199)
Personal income (logged)	.261**	(.089)
Professional <sup>d</sup>	-.175	(.131)
Job characteristics controls		
Job authority	-.054	(.047)
Job autonomy	-.189***	(.055)
Job decision latitude	-.563***	(.091)
Job demands	.235***	(.070)
Noxious work	.212***	(.063)
Work 40–49 hours/week <sup>e</sup>	-.243	(.127)
Work 50+ hours/week <sup>e</sup>	-.375*	(.166)
Basic demographic controls		
Women	-.082	(.112)
Age	-.019***	(.004)
White	.088	(.124)
Married	-.180	(.107)

(continued)

**Table 3.** (continued)

Children at home	-.047	(.053)
Cut 1	-.594	
Cut 2	.873	
Cut 3	3.222	
<i>df</i>	28	
Wald Chi <sup>2</sup>	327.390	
Pseudo R <sup>2</sup>	.095	

Note. Robust standard errors in parentheses.

<sup>a</sup>Compared with paid appropriately; <sup>b</sup>Compared with private sector; <sup>c</sup>Compared with High School degree; <sup>d</sup>Compared with nonprofessionals; <sup>e</sup>Compared with <40 hours/week.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$  (two-tailed test).

Model 2 demonstrates that perceived job security functions as a protective resource by weakening the positive relationship between underpayment and job dissatisfaction—especially at the more severe level of underpayment. Figure 1(a) and (b) illustrates this interaction effect, showing the predicted probabilities of reporting “not at all satisfied” and “somewhat satisfied” (respectively) based on estimates for individuals with low versus high levels of job security. Perceived underpayment is associated with an increased risk of job dissatisfaction—but that relationship is weaker among those with more job security. Finally, to compare the moderating effects of job security with other job attributes, we performed ancillary tests of interaction effects of job authority, autonomy, and decision latitude. No statistically significant interaction effects were found (see Table A3). Collectively, these patterns support Hypotheses 2 and 2A.

The tests for financial security as a moderator are remarkably similar to those observed for job security. Model 3 of Table 2 shows that the positive relationship between severe underpayment and job dissatisfaction is weaker among those with greater financial security. As Figure 2(a) and (b) illustrates, the probability that workers are “not at all satisfied” or “somewhat satisfied” with their jobs increases across levels of perceived underpayment—and, importantly, that pattern is significantly weaker among individuals with more financial security. These findings support Hypothesis 3. It is also noteworthy that the interaction between perceived underpayment and financial security remains statistically significant even net of income. Financial security

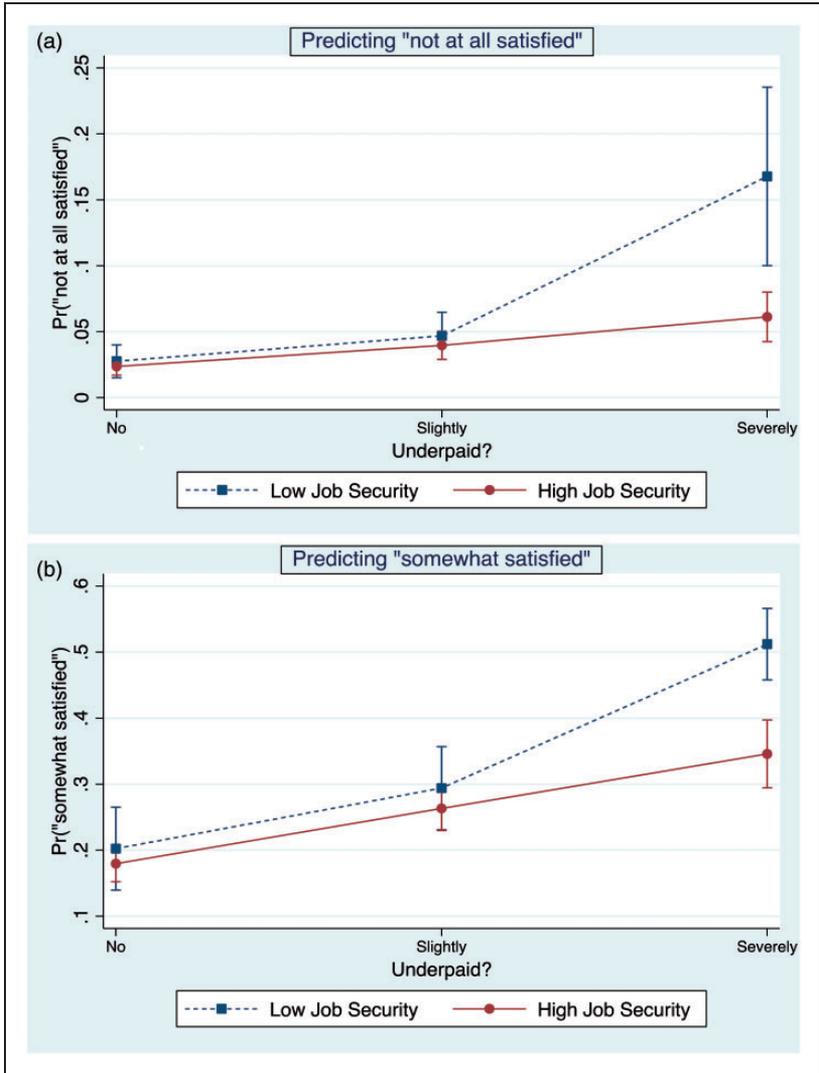
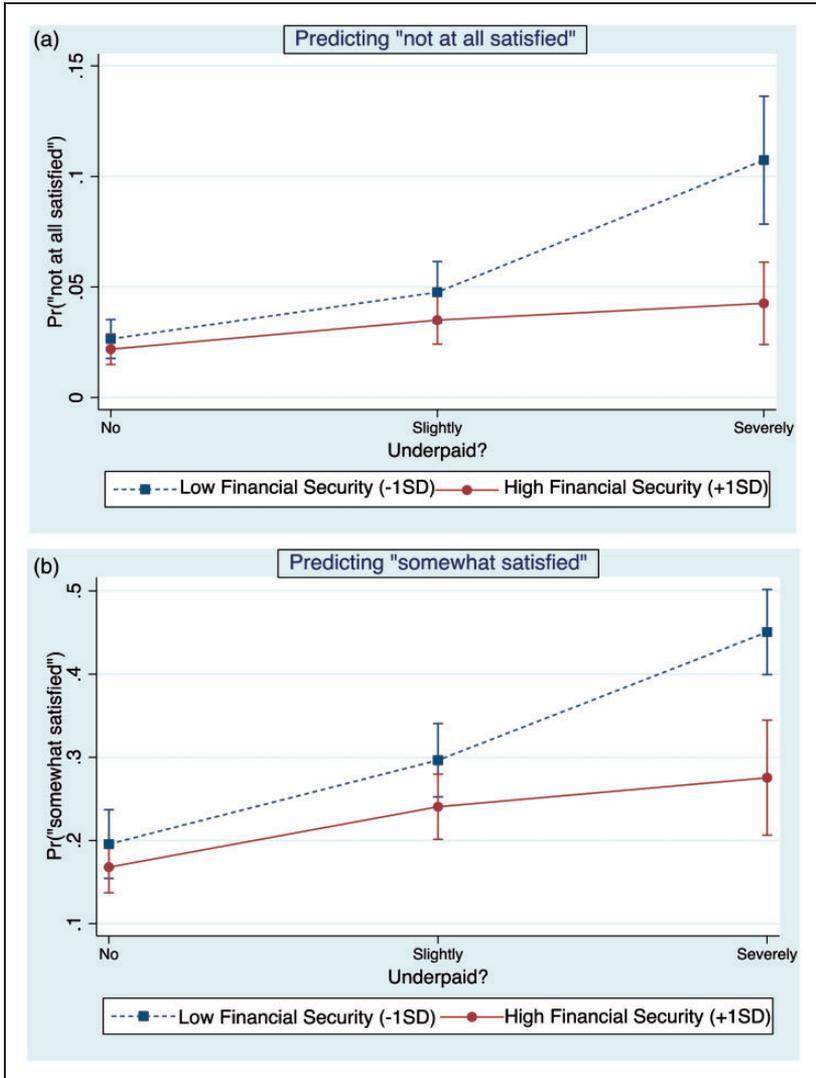


Figure 1. Perceived underpayment and job dissatisfaction by job security: (a) “not at all satisfied” and (b) “somewhat satisfied”.



**Figure 2.** Perceived underpayment and job dissatisfaction by financial security: (a) “not at all satisfied” and (b) “somewhat satisfied”.

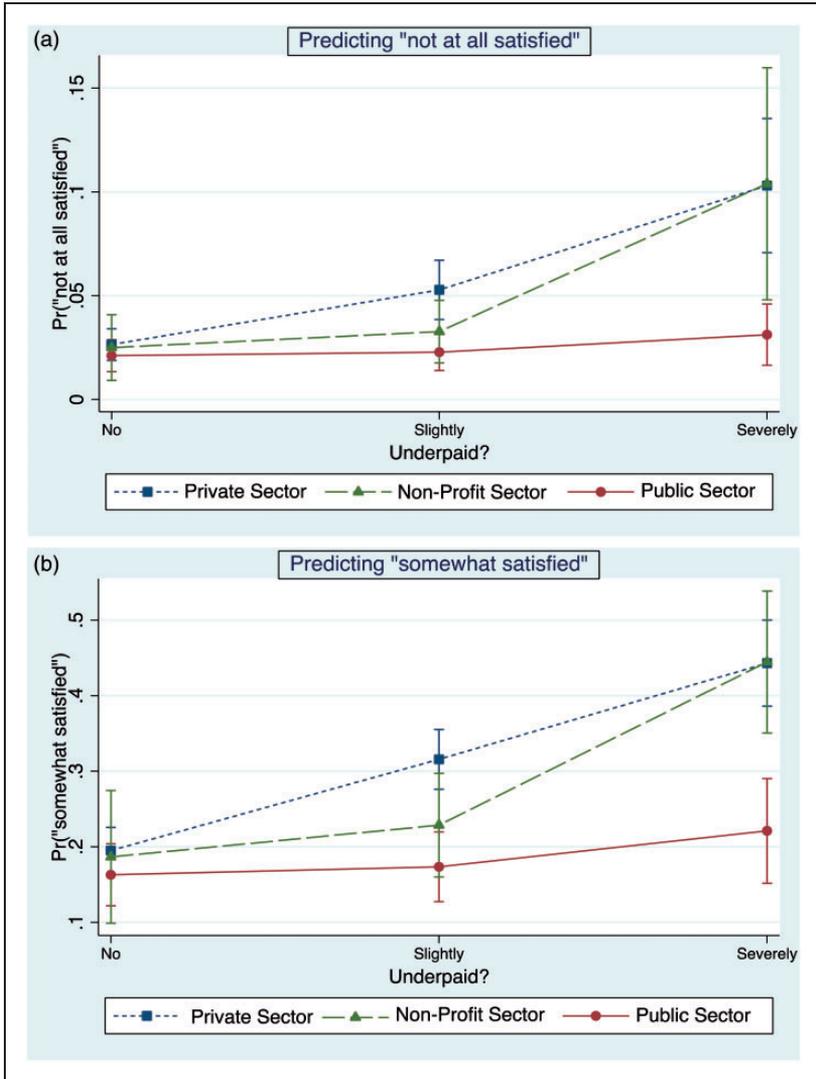
appears to be a protective resource above and beyond its link to income.

In a supplemental section of our analyses, we test hypotheses about public sector employment as another moderator. Table 3 indicates that the positive association between slight or severe underpayment and the risk of job dissatisfaction is weaker among workers in public sector jobs compared with those in the for-profit sector. The interaction coefficients hold stable even after we adjust for perceived job and financial security. That is, the moderating effect of public sector employment is not attributable to sector differences in job or financial security.<sup>6</sup> Figures 3(a) and (b) illustrates these patterns: The probability of reporting “not at all satisfied” or “somewhat satisfied” increases across levels of perceived underpayment for workers in the public and nonprofit sectors—but that association is flat among workers in the public sector. Taken together, we observe partial support for Hypothesis 4.<sup>7</sup>

## Discussion

Theories about distributive justice suggest that people who feel underpaid should also be more dissatisfied with their jobs. Is that true? Our findings indicate that the answer depends on experienced security. Based on an analysis of a national sample of American workers, we first confirm a positive association between perceived underpayment and job dissatisfaction. We then elaborate on that association in three novel ways. First, we document that two salient aspects of security—job and financial security—function as modifiers. Second, we demonstrate the unique moderating potency of job security by comparing it with other kinds of job-related resources like authority, autonomy, and decision latitude. Third, we document that the association between perceived underpayment and job dissatisfaction is weaker for workers in the public sector compared with those in the private sector.

In support of Hypothesis 1, we observe that those who feel slightly or severely underpaid are more dissatisfied with their jobs compared with those who feel paid appropriately, net of socioeconomic status, job conditions, and demographic controls. However, consistent with Hypotheses 2 and 3, we document that perceived underpayment is less closely coupled with feelings of dissatisfaction for workers who report greater security in their jobs and their financial circumstances. We found it especially noteworthy that the observed patterns of job and financial security as moderators were so highly similar. This effort to uncover conditional effects represents an elaboration of a long-standing



**Figure 3.** Perceived underpayment and job dissatisfaction by occupational sector: (a) “not at all satisfied” and (b) “somewhat satisfied”.

claim in equity research that perceived underpayment is associated with feelings of dissatisfaction (Adams, 1965). While some scholars like Hegtvedt (2006) have made a compelling *theoretical* case for situational factors as effect modifiers, we could not locate prior research that has adequately tested for situational modifiers in a population-based sample. In our study, we have sought to fill that void by utilizing a national sample of American workers and by identifying forms of security as protective resources.

As a further extension to prior theorizing and empirical work, we also investigated whether job security differs from other job resources as a moderator. With Maslow's ideas about hierarchy of needs as a guiding framework, we hypothesized that job security should function as a more potent moderator in comparison to resources related to job control (Hypothesis 2A). Our results demonstrate that only job security functions as a moderator. These findings demonstrate that not all job resources are equivalent as moderators in the association between perceived underpayment and job dissatisfaction—and, more importantly, job security is an especially potent attribute.

Finally, we examined whether public sector employment—which has been characterized by relatively higher levels of job and financial security (compared with private sector employment)—moderates the association between perceived underpayment and job dissatisfaction. We found that perceived underpayment is less closely coupled with job dissatisfaction for public sector workers compared with private sector workers. Importantly, the patterns parallel the moderating effects of job security and financial security. However, while we expected these patterns to be partly attributable to sector differences in job and financial security, we observed that the interaction effect held even after we accounted for job and financial security. Our findings therefore demonstrate only partial support for Hypothesis 4.

## Conclusion

The main contribution of our study is the identification of job and financial security as situational factors that modify the association between perceived underpayment and job dissatisfaction. Future research might extend beyond this to consider whether job and financial security function as modifiers for other indicators of well-being. For instance, early research by Homans (1961) indicates that perceived underpayment is not only associated with more dissatisfaction but should also be associated with more anger. Recent studies also indicate

that perceived underpayment is associated with physical health problems (Schunk et al., 2015). One question for future research is: Do the moderating functions of job security and financial security generalize across outcomes like anger and physical health? With regard to anger, it would be theoretically valuable (on several levels) to distinguish between feelings of anger and expressions of anger as individuals in disadvantaged positions may feel anger but not express it (Cropanzano, Stein, & Nadisic, 2011; Hegtvedt & Parris, 2014). In addition, future studies should continue to explore situational factors in the association between perceived underpayment and well-being with population-based samples. Research in this area has largely utilized experiments or focused on samples within particular organizations. While those studies provide invaluable insights, the use of population-based samples will allow generalizations across a wider range of socioeconomic statuses, work conditions, occupations, and sectors. Alongside population-based designs, we encourage mixed-method approaches to replicate and extend the early vignette-based designs that discovered social determinants of perceptions about distributive justice and fairness judgments (e.g., Alves & Rossi, 1978; Jasso & Rossi, 1978).

We have sought to make theoretical contributions by integrating the JD-R model with Maslow's ideas about the hierarchy of needs to understand why particular job demands interact with particular job resources. Proponents of the JD-R model (see for example, Schaufeli & Taris, 2014) have claimed that the integration of additional theoretical frameworks to the JD-R model can help us understand why particular demands interact with particular resources. We hypothesized that job security—as an indicator of a basic human safety need—should function as a more potent protective resource than job authority, autonomy, or decision latitude, which may represent higher needs of esteem and self-actualization. Our findings reveal that for workers who feel severely underpaid, the prepotency of security might be elevated over needs related to job control. Scholars working in the parameters of the JD-R model have documented how job resources can buffer the negative effects of job demands on employee well-being. However, there has been little theoretical development on the reasons why, given a particular demand, some job resources function as moderators while others do not. Ideas from Maslow's theory might provide some preliminary insights that help address the deficit. Future work might attempt to

build upon the integration of the JD-R and Maslow's theory to describe a hierarchy of job resources as a way to better understand the interaction of particular demands and resources.

While our data are admittedly limited in terms of a capacity to explain why perceived underpayment is less closely coupled with job dissatisfaction for public sector workers, we have sought to provide an initial test of the claim that some structural arrangements that might reflect greater security or provide alternative rewards, in turn, offer protection against feelings of underreward. The fact that the moderating effect of employment in the public sector remains even after adjustment for perceptions of job security and financial security would seem to indicate that some other protective features might characterize public sector employment. Additional inquiry could consider the relevance of occupational differences in unionization, the provision of benefits, and individual differences in expectations and job values as additional explanations.

A few other study limitations deserve mention. First, job dissatisfaction was assessed with a single-item measure. Here we wish to underscore that other recently published studies have used single items—and, as discussed earlier, reviews of job satisfaction measures show that single-item measures correlate highly on more complex scales (Clark, 1998) and have adequate levels of reliability (Wanous et al., 1997). Another limitation pertains to our measure of perceived underpayment. The question asks individuals to evaluate their pay but does not situate pay in a context with qualifiers like “in comparison to your coworkers” or “in comparison to others who do the type of job you do.” Thus, we are not able to determine from our measure to whom individuals compared their pay. Previous research indicates that workers tend to compare themselves to coworkers and others in the same occupation to evaluate their pay (Bygren, 2004; Clark & Senik, 2010). We assume that similar reference groups have been used by the workers in our sample, but this remains a speculation. Further, we have taken the recognition of “slightly” or “severely underpaid” to reflect perceived injustice, but it is also possible that the responses reflect the perception that the respondents are not receiving what they feel they deserve or want. Thus, the measure potentially confounds respondents' concerns about justice and self-interest. As a defense, however, we question whether we would have observed the patterns in our findings if the measure were related to self-interest.

For instance, would job security and financial security provide protective functions to those who feel that they are not getting what they want? Future research might examine social and economic differences in the relationship between under- versus overpayment and fairness judgments (or “just deserts”).

Finally, we also acknowledge that our interpretations are constrained by the fact that these analyses are based on cross-sectional data. Thus, the causal directions of the results are not clear. Based on classic formulations in equity theory and literature reviews about pay evaluations (Adams, 1965; Hegtvedt, 2006), we articulated the focal association as follows: “Perceived underpayment predicts job dissatisfaction—and this depends on levels and types of security.” While it is possible that some aspect of causality flows in alternative directions, the theory behind the hypothesized moderators makes intuitive sense: Feeling underpaid should “hurt less” when people feel more secure in highly salient domains. The use of cross-sectional data does not diminish the importance of the observation that the relationship between perceived underpayment and job dissatisfaction is not the same across individuals who differ in job security, financial security, and occupational sector. Nonetheless, efforts to collect longitudinal data to address these issues are essential; our observations should therefore be viewed as a baseline foundation. The complex interplay among feelings of underpayment, dissatisfaction, other emotions, and behavioral responses over time remains ripe terrain for future inquiry.

## Appendix

**Table A1.** Sample Comparisons Between the 2005 WSH and the 2002 NSCW.

	2005 WSH	2002 NSCW
High school (%)	28	23
Bachelor's degree (%)	21	25
Postgraduate degree (%)	13	14
Women (%)	60	57
Married (%)	54	58
White (%)	73	80
Age (mean)	43	42

Note. These reported comparisons exclude self-employed individuals. WSH = Work, Stress, and Health Study; NSCW = National Study of the Changing Workforce.

**Table A2.** Means and Proportions of Perceived Underpayment, Forms of Security, and Occupational Sector by Gender, Race, and Education (N = 1,498).

	Women	Men	Non-White	White	Less than HS	High School	Some College	BA Degree	Postgraduate
Perceived underpayment									
Paid appropriately	.386**	.459	.337***	.445	.388	.391	.447	.404	.419
Slightly underpaid	.354	.370	.322	.375	.375	.350	.347	.401	.345
Severely underpaid	.259***	.171	.341***	.180	.238	.259	.206	.196	.236
Forms of security									
Low job security	.188	.212	.217	.190	.212	.189	.204	.215	.167
High job security	.812	.788	.783	.810	.788	.811	.796	.785	.833
Financial security	3.011***	3.273	2.948***	3.178	2.666*	2.982	3.013	3.334***	3.466***
Occupational sector									
Private	.600***	.691	.598	.651	.8	.751	.674	.596***	.310***
Public	.256	.225	.278	.231	.150	.165	.216	.252	.493***
Nonprofit	.144***	.084	.124	.119	.050	.084	.110	.151	.197*

Note. Numbers indicate proportions except for those in the financial security row, which indicates means. The comparison group for education is High School. Means/proportions significantly different from comparison group at \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$  (two-tailed test).

**Table A3.** Ordinal Logistic Regression Coefficients Predicting Job Dissatisfaction: Testing the Moderating Functions of Job Authority, Autonomy, and Decision Latitude ( $N = 1,498$ ).

	Model 1	Model 2	Model 3
Perceived underpayment			
Slightly underpaid <sup>a</sup>	.526*** (.113)	.519*** (.113)	.526*** (.113)
Severely underpaid <sup>a</sup>	1.189*** (.150)	1.169*** (.150)	1.167*** (.150)
Higher job resources			
Job authority	-.106 (.067)	-.053 (.046)	-.055 (.046)
Job autonomy	-.180*** (.055)	-.159 (.089)	-.176*** (.055)
Job decision latitude	-.582*** (.091)	-.575*** (.092)	-.475*** (.155)
Interactions			
Job authority × Slightly underpaid	.081 (.093)		
Job authority × Severely underpaid	.124 (.129)		
Job autonomy × Slightly underpaid		-.016 (.119)	
Job autonomy × Severely underpaid		-.053 (.147)	
Job decision latitude × Slightly underpaid			-.085 (.197)
Job decision latitude × Severely underpaid			-.219 (.206)
Forms of security			
Job security	-.384** (.129)	-.385** (.129)	-.385** (.129)
Financial security	-.315*** (.078)	-.315*** (.078)	-.310*** (.078)

(continued)

**Table A3.** (continued)

	Model 1	Model 2	Model 3
Occupational sector			
Public <sup>b</sup>	-.719*** (.127)	-.714*** (.126)	-.705*** (.127)
Nonprofit <sup>b</sup>	-.178 (.169)	-.182 (.168)	-.188 (.169)
SES controls			
Less than high school <sup>c</sup>	-.158 (.276)	-.143 (.273)	-.131 (.271)
Some college/associates degree <sup>c</sup>	.271* (.136)	.272* (.136)	.272* (.137)
Bachelor's degree <sup>c</sup>	.556*** (.156)	.564*** (.156)	.560*** (.156)
Postgraduate degree <sup>c</sup>	.567*** (.199)	.562*** (.199)	.558*** (.199)
Personal income (logged)	.265** (.089)	.259** (.088)	.255** (.089)
Professional <sup>d</sup>	-.167 (.132)	-.165 (.132)	-.162 (.132)
Job characteristics controls			
Job demands	.244*** (.069)	.247*** (.069)	.244*** (.068)
Noxious work	.211*** (.063)	.213*** (.063)	.212*** (.063)
Work 40–49 hours/week <sup>e</sup>	-.239 (.127)	-.244 (.127)	-.249 (.128)
Work 50+ hours/week <sup>e</sup>	-.433** (.165)	-.436** (.165)	-.439** (.165)
Basic demographic controls			
Women	-.095 (.112)	-.097 (.112)	-.097 (.112)
Age	-.019*** (.004)	-.019*** (.004)	-.019*** (.004)
White	.095 (.125)	.098 (.125)	.099 (.125)
Married	-.189 (.107)	-.184 (.107)	-.180 (.107)

(continued)

**Table A3.** (continued)

	Model 1	Model 2	Model 3
Children at home			
Cut 1	-.045 (.053)	-.046 (.053)	-.048 (.053)
Cut 2	-1.531	-1.540	-1.539
Cut 3	-.074	-.084	-.083
df	2.242	2.236	2.246
	26	26	26
Wald Chi <sup>2</sup>	311.890	311.730	316.460
Pseudo R <sup>2</sup>	.092	.091	.092

Note. Robust standard errors in parentheses.

<sup>a</sup>Compared with paid appropriately; <sup>b</sup>Compared with private sector; <sup>c</sup>Compared with High School degree; <sup>d</sup>Compared with nonprofessionals;

<sup>e</sup>Compared with <40 hours/week.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$  (two-tailed test).

**Table A4.** Means and Proportions of Perceived Underpayment, Job Security, and Financial Security by Occupational Sector ( $N = 1,498$ ).

	Private	Public	Non-Profit
<b>Perceived Underpayment</b>			
Paid appropriately	.442	.392	.322*
Slightly underpaid	.366	.332	.389
Severely underpaid	.192	.277*	.289*
<b>Forms of security</b>			
Low job security	.211	.170	.183
High job security	.789	.830	.817
Financial security	3.069	3.231**	3.125

Note. Numbers indicate proportions except for those in the financial security row, which indicates means. Means/proportions significantly different from private sector at \* $p < .05$ ; \*\* $p < .01$ .

## Acknowledgments

We acknowledge the reviewers and the editor for their insights and helpful feedback. We are also grateful for the guidance and support from Blair Wheaton, Geoffrey Wodtke, and members of the Research Practicum in the Department of Sociology at the University of Toronto.

## Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This study is supported by a grant award from the National Institute of Occupational Safety and Health at the Centers for Disease Control (R01 OH008141; to Scott Schieman, Principal Investigator).

## Notes

1. We recognize that previous research offers a wide array of possible explanations for interindividual differences in job dissatisfaction apart from perceptions of pay. Given the particular angle theorized by early research on the topic (e.g., Homans), we sharpen our focus on the relationship between perceived underpayment and job dissatisfaction.
2. A study by Kausto, Elo, Lipponen, and Elovainio (2005) is an exception. They found that the effect of procedural injustice on exhaustion and stress

was weaker for those with job security. However, their sample consisted of technical workers in a Finnish municipality, which limits generalizability across occupations. Furthermore, the authors encourage researchers to focus more attention on the moderating role of job security in the effect of distributive injustice.

3. While we argue that public sector employment is *relatively* more secure than private sector employment, it is important to recognize recent reforms that have occurred in the public sector. Some have criticized its “rule-bound bureaucracy” and suggested that the internal rules and regulations that were initially implemented to ensure accountability, protection, and equity of its employees have hindered efficiency and effectiveness (Peters, 2001). As a result, personnel practices in the public sector have become increasingly decentralized (Coggburn, 2000). Decentralization was thought to “increase administrative flexibility, add responsiveness, and expedite hiring and other important supervisory decisions” (Hays & Sowa, 2007, p. 10) but has had significant consequences for public sector employees. This has led to the rise of at-will employment. That is, many government positions have been declassified from tenured employment that protected workers from removal without “just cause,” to employment where workers could be dismissed for any or no reason (Green, Forbis, Golden, Nelson, & Robinson, 2006). Furthermore, this trend has been coupled with the widespread erosion of due process rights, such that workers face more restrictions in grieving decisions made by managers (Hays & Sowa, 2007). These changes have made public sector employment less secure than it used to be.
4. Table A1 indicates that the sociodemographic profile of the Work, Stress, and Health Study sample is highly similar to another highly regarded and widely used national sample of American workers: the NSCW.
5. In all of our models, the Brant test indicated that the parallel regression assumption was violated. We relaxed the parallel regression constraint and used the partial proportional odds model (Williams, 2006). Those results were similar to those from ordinal logistic regression. We also performed analyses using either ordinal least squares regression or logistic regression in which we compared a “dissatisfied” group (combined “not at all satisfied” and “somewhat satisfied”) with a “satisfied” group (combined “quite a bit satisfied” and “very much satisfied”). All of these results were also quite similar to those obtained from ordinal logistic regression. In the end, we decided to report the estimates from ordinal logistic regression.
6. Table A4 indicates that workers in public sector jobs have a higher mean financial security compared with those in private sector jobs but are no different than those in the nonprofit sector. By contrast, there are no mean differences in job security. These findings suggest that of the two, only financial security might have potential to contribute to the hypothesized effects.
7. Some readers might wonder about gender differences in our hypothesized focal associations. We therefore tested a series of three-way interactions

(e.g., Perceived underpayment  $\times$  Job security  $\times$  Women) to examine whether the protective functions of job security, financial security, and public sector employment differed for men and women. None of the three-way interaction terms was statistically significant. At least in these data, there are no gender differences in the two-way moderating effects observed in our results.

## References

- Adams, J. S. (1965). Inequality in social exchange. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 2, pp. 267–299). New York, NY: Academic Press.
- Alves, W. M., & Rossi, P. H. (1978). Who should get what? Fairness judgments of the distribution of earnings. *American Journal of Sociology*, 84, 541–564.
- Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology*, 22(3), 309–328.
- Bakker, A. B., Demerouti, E., & Euwema, M. C. (2005). Job resources buffer the impact of job demands on burnout. *Journal of Occupational Health Psychology*, 10(2), 170–180.
- Begley, T. M., Lee, C., & Hui, C. (2006). Organizational level as a moderator of the relationship between justice perceptions and work-related reactions. *Journal of Organizational Behavior*, 27, 705–721.
- Bersoff, D., & Crosby, F. (1984). Job satisfaction and family status. *Personality and Social Psychology Bulletin*, 10(1), 79–83.
- Brockner, J., Tyler, T. R., & Cooper-Schneider, R. (1992). The influence of prior commitment to an institution on reactions to perceived unfairness: The higher they are, the harder they fall. *Administrative Science Quarterly*, 37, 241–261.
- Burgard, S. A., Brand, J. E., & House, J. S. (2009). Perceived job insecurity and worker health in the United States. *Social Science & Medicine*, 69, 777–785.
- Bygren, M. (2004). Pay reference standards and pay satisfaction: What do workers evaluate their pay against? *Social Science Research*, 33(2), 206–224.
- Cheng, T., Mauno, S., & Lee, C. (2014). Do job control, support and optimism help job insecure employees? A three-wave study of buffering effects on job satisfaction, vigor, and work-family environment. *Social Indicators Research*, 118(3), 1269–1291.
- Clark, A. E. (1996). Job satisfaction in Britain. *British Journal of Industrial Relations*, 34(2), 189–217.
- Clark, A. E. (1997). Job satisfaction and gender: Why are women so happy at work? *Labour Economics*, 4, 341–372.
- Clark, A. E. (1998). *Measures of job satisfaction: What makes a good job? Evidence from OECD countries* (OECD Labour Market and Social Policy Occasional Papers, No. 34). Paris, France: OECD Publishing.
- Clark, A. E. (2001). What really matters in a job? Hedonic measurement using quit data. *Labour Economics*, 8, 223–242.

- Clark, A. E., & Postel-Vinay, F. (2009). Job security and job protection. *Oxford Economic Papers*, 61, 207–239.
- Clark, A. E., & Senik, C. (2010). Who compares to whom? The anatomy of income comparisons in Europe. *The Economic Journal*, 120(544), 573–594.
- Clay-Warner, J., Reynolds, J., & Roman, P. (2005). Organizational justice and job satisfaction: A test of three competing models. *Social Justice Research*, 18(4), 391–409.
- Cogburn, J. D. (2000). The effects of deregulation on state government personnel administration. *Review of Public Personnel Administration*, 20(4), 24–40.
- Cohen-Charash, Y., & Spector, P. E. (2001). The role of justice in organizations: A meta-analysis. *Organizational Behavior and Human Decision Processes*, 86(2), 278–321.
- Colquitt, A. J., Conlon, D. E., Wesson, M. J., Porter, C. O. L. H., & Ng, K. Y. (2001). Justice at the millennium: A meta-analytic review of 25 years of organizational justice research. *Journal of Applied Psychology*, 86(3), 425–445.
- Colquitt, A. J., Greenberg, J., & Zapata-Phelan, C. P. (2005). What is organizational justice? A historical overview. In J. Greenberg & J. A. Colquitt (Eds.), *Handbook of organizational justice* (pp. 3–56). Mahwah, NJ: Lawrence Erlbaum Associates.
- Colquitt, A. J., Scott, B. A., Rodell, J. B., Long, D. M., Zapata-Phelan, C. P., Conlon, D. E., . . . Wesson, M. J. (2013). Justice at the millennium, a decade later: A meta-analytic test of social exchange and affect-based perspectives. *Journal of Applied Psychology*, 98, 199–236.
- Copeland, C. (2006). Employment-based retirement plan participation: Geographic differences and trends, 2005. *EBRI Issue Brief*, 299, 1–32.
- Cornfield, D. B., & Fletcher, B. (2001). The U.S labor movement: Toward a sociology of labor revitalization. In I. Berg & A. L. Kalleberg (Eds.), *Sourcebook of labor markets: Evolving structures and processes* (pp. 61–82). New York, NY: Kluwer Academic/Plenum Publishers.
- Cropanzano, R., Stein, J. H., & Nadisic, T. (2011). *Social justice and the experience of emotion*. New York, NY: Routledge.
- Demerouti, E., & Bakker, A. B. (2011). The job-demands resources model: Challenges for future research. *SA Journal of Industrial Psychology*, 37(2), 1–9.
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86(3), 499–512.
- De Witte, H., & Näswall, K. K. (2003). ‘Objective’ vs. ‘subjective’ job insecurity: Consequences of temporary work for job satisfaction and organizational commitment in four European countries. *Economic and Industrial Democracy*, 24(2), 149–188.

- Families and Work Institute. (2008). *National study of the changing workforce*. New York, NY: Families and Work Institute.
- Faragher, E. B., Cass, M., & Cooper, C. L. (2005). The relationship between job satisfaction and health: A meta-analysis. *Occupational and Environmental Medicine*, 62(1), 105–112.
- Farber, H. S. (2005). *Union membership in the United States: The divergence between the public and private sectors* (Working Paper No. 503). Princeton, NJ: Industrial Relations Section, Princeton University.
- Farber, H. S. (2009). *Job loss and the decline in job security in the United States* (Working Paper No. 520). Princeton, NJ: Industrial Relations Section, Princeton University.
- Ferrie, J. E., Shipley, M. J., Newman, K., Stansfeld, S. A., & Marmot, M. (2005). Self-reported job insecurity and health in the Whitehall II study: Potential explanations of the relationship. *Social Science & Medicine*, 60, 1593–1602.
- Ford, M. T. (2014). Perceived unfairness at work, social and personal resources, and resting blood pressure. *Stress and Health*, 30(1), 12–22.
- Ford, M. T., & Huang, J. (2014). The health consequences of organizational injustice: Why do they exist and what can be done? In S. Leka & R. R. Sinclair (Eds.), *Contemporary occupational health psychology: Global perspectives on research and practice* (Vol. 3, pp. 35–50). West Sussex, England: John Wiley & Sons, Ltd.
- Fox, S., Spector, P. E., & Miles, D. (2001). Counterproductive work behavior (CWB) in response to job stressors and organizational justice: Some mediator and moderator tests for autonomy and emotions. *Journal of Vocational Behavior*, 59, 291–309.
- Frank, S. A., & Lewis, G. B. (2004). Government employees: Working hard or hardly working? *American Review of Public Administration*, 34(1), 36–51.
- Fried, Y., Slowik, L. H., Shperling, Z., Franz, C., Ben-David, H. A., Avital, N., . . . Yeverechyahu, U. (2003). The moderating effect of job security on the relation between role clarity and job performance: A longitudinal field study. *Human Relations*, 56(7), 787–805.
- Fronstin, P. (2006). Sources of health insurance and characteristics of the uninsured: Analysis of the March 2006 Current Population Survey. *EBRI Issue Brief*, 298, 1–30.
- Fullerton, A. S., & Wallace, M. (2007). Traversing the flexible turn: US workers' perceptions of job security, 1977–2002. *Social Science Research*, 36, 201–222.
- Glavin, P. (2013). The impact of job insecurity and job degradation on the sense of personal control. *Work and Occupations*, 40(2), 115–142.
- Glavin, P., & Schieman, S. (2014). Control in the face of uncertainty: Is job insecurity a challenge to the mental health benefits of control beliefs? *Social Psychology Quarterly*, 77(4), 319–343.
- Green, R., Forbis, R., Golden, A., Nelson, S. L., & Robinson, J. (2006). On the ethics of at-will employment in the public sector. *Public Integrity*, 8(4), 305–327.

- Hays, S. W., & Sowa, J. E. (2007). Changes in state civil service systems: A national survey. In J. S. Bowman & J. P. West (Eds.), *American public service: Radical reform and the merit system* (pp. 3–21). Boca Raton, FL: Taylor & Francis.
- Hegtvædt, K. A. (2006). Justice frameworks. In P. J. Burke (Ed.), *Contemporary social psychological theories* (pp. 46–69). Stanford, CA: Stanford University Press.
- Hegtvædt, K. A., & Parris, C. (2014). Emotions in justice processes. In J. Stets & J. Turner (Eds.), *Handbook of the sociology of emotions* (Vol. 2, pp. 103–125). New York, NY: Springer.
- Henry, P. J. (2011). The role of group-based status in job satisfaction: Workplace respect matters more for the stigmatized. *Social Justice Research, 24*, 231–238.
- Homans, G. C. (1961). *Social behavior: Its elementary forms*. New York, NY: Harcourt, Brace & World.
- Jacobe, D. (2008). *Half of Americans say they are underpaid*. Retrieved from <http://www.gallup.com/poll/109618/half-americans-say-they-underpaid.aspx>
- Jasso, G., & Rossi, P. H. (1978). Distributive justice and earned income. *American Sociological Review, 42*, 639–651.
- Judge, T. A., & Bono, J. E. (2001). Relationship of core self-evaluation traits – self-esteem, generalized self-efficacy, locus of control, and emotional stability – with job satisfaction and job performance: A meta-analysis. *Journal of Applied Psychology, 86*(1), 80–92.
- Judge, T. A., Piccolo, R. F., Podsakoff, N. P., Shaw, J. C., & Rich, B. L. (2010). The relationship between pay and job satisfaction: A meta-analysis of the literature. *Journal of Vocational Behavior, 77*, 157–167.
- Judge, T. A., Thoresen, C. J., Bono, J. E., & Patton, G. K. (2001). The job satisfaction-job performance relationship: A qualitative and quantitative review. *Psychological Bulletin, 127*(3), 376–407.
- Kalleberg, A. L. (2011). *Good jobs, bad jobs: The rise of polarized and precarious employment systems in the United States, 1970s–2000s*. New York, NY: Russell Sage Foundation.
- Kalleberg, A. L., & Marsden, P. V. (2013). Changing work values in the United States, 1973–2006. *Social Science Research, 42*(2), 255–270.
- Karl, K. A., & Sutton, C. L. (1998). Job values in today's workforce: A comparison of public and private sector employees. *Public Personnel Management, 27*(4), 515–527.
- Kausto, J., Elo, A.-L., Lipponen, J., & Elovainio, M. (2005). Moderating effects of job insecurity in the relationships between procedural justice and employee well-being: Gender differences. *European Journal of Work and Organizational Psychology, 14*(4), 431–452.
- Lepkowski, J. M. (1988). Telephone sampling methods in the United States. In R. Groves (Ed.), *Telephone survey methodology* (pp. 73–98). New York, NY: John Wiley.
- Lewis, G. B., & Frank, S. A. (2002). Who wants to work for the government? *Public Administration Review, 62*(4), 395–404.

- Lind, E. A., & Van den Bos, K. (2002). When fairness works: Toward a general theory of uncertainty management. *Research in Organizational Behavior, 24*, 181–223.
- Lipponen, J., Olkkonen, M.-E., & Myrsky, L. (2004). Personal value orientation as a moderator in the relationships between perceived organizational justice and its hypothesized consequences. *Social Justice Research, 17*(3), 275–292.
- Luechinger, S., Meier, S., & Stutzer, A. (2010). Why does unemployment hurt the employed? Evidence from the life satisfaction gap between the public and the private sector. *Journal of Human Resources, 45*(4), 998–1045.
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review, 50*(4), 370–396.
- Maslow, A. H. (1954). *Motivation and personality*. New York, NY: Harper.
- Mirowsky, J. (2013). Analyzing associations between mental health and social circumstances. In C. S. Aneshensel, J. C. Phelan & A. Bierman (Eds.), *Handbook of the sociology of mental health* (2nd ed., pp. 143–165). New York, NY: Springer.
- Mirowsky, J., & Ross, C. E. (2003). *Social causes of psychological distress* (2nd ed.). Hawthorne, NY: Aldine de Gruyter.
- Pearlin, L. I. (1983). Role strains and personal stress. In H. B. Kaplan (Ed.), *Psychosocial stress: Trends in theory and research* (pp. 3–31). New York, NY: Academic Press.
- Pearlin, L. I., Menaghan, E. G., Lieberman, M. A., & Mullan, J. T. (1981). The stress process. *Journal of Health and Social Behavior, 22*(4), 337–356.
- Peters, B. G. (2001). *The future of governing*. Lawrence, KS: University Press of Kansas.
- Probst, T. M. (2003). Development and validation of the job security index and the job security satisfaction scale: A classical test theory and IRT approach. *Journal of Occupational and Organizational Psychology, 76*, 451–467.
- Pudrovska, T., Schieman, S., Pearlin, L. I., & Nguyen, K. (2005). The sense of mastery as a mediator and moderator in the association between economic hardship and health in late life. *Journal of Aging and Health, 17*(5), 634–660.
- Robbins, J. M., Ford, M. T., & Tetrick, L. E. (2012). Perceived unfairness and employee health: A meta-analytic integration. *Journal of Applied Psychology, 97*(2), 235–272.
- Ross, C. E., & Reskin, B. F. (1992). Education, control at work, and job satisfaction. *Social Science Research, 21*, 134–148.
- Ross, C. E., & Wu, C.-L. (1995). The links between education and health. *American Sociological Review, 60*(5), 719–745.
- Roxburgh, S. (1999). Exploring the work and family relationship: Gender differences in the influence of parenthood and social support on job satisfaction. *Journal of Family Issues, 20*(6), 771–788.
- Saad, L. (2010). *More workers ok with their pay in 2010*. Retrieved from <http://www.gallup.com/poll/142310/workers-pay-2010.aspx>

- Sandberg, J. G., Harper, J. M., Hill, E. J., Miller, R. B., Yorgason, J. B., & Day, R. D. (2013). "What happens at home does not necessarily stay at home": The relationship of observed negative couple interaction with physical health, mental health, and work satisfaction. *Journal of Marriage and Family*, 75, 808–821.
- Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior*, 25(3), 293–315.
- Schaufeli, W. B., & Taris, T. W. (2014). A critical review of the job demands-resources model: Implications for improving work and health. In G. F. Bauer & O. Hämmig (Eds.), *Bridging occupational, organizational and public health: A transdisciplinary approach* (pp. 43–68). Dordrecht, The Netherlands: Springer.
- Schieman, S. (2010). Socioeconomic status and beliefs about God's influence in everyday life. *Sociology of Religion*, 71(1), 25–51.
- Schieman, S., Milkie, M. A., & Glavin, P. (2009). When work interferes with life: Work-nonwork interference and the influence of work-related demands and resources. *American Sociological Review*, 74, 966–987.
- Schieman, S., & Reid, S. (2008). Job authority and interpersonal conflict in the workplace. *Work and Occupations*, 35, 296–326.
- Schieman, S., & Reid, S. (2009). Job authority and health: Unraveling the competing suppression and explanatory influences. *Social Science & Medicine*, 69, 1616–1624.
- Schunck, R., Sauer, C., & Valet, P. (2015). Unfair pay and health: The effects of perceived injustice of earnings on physical health. *European Sociological Review*, 31(6), 655–666.
- Smith, T. W. (2007). *Job satisfaction in the United States*. Retrieved from <http://www-news.uchicago.edu/releases/07/070417.jobs.shtml>
- Spector, P. E. (1997). *Job satisfaction: Application, assessment, causes, and consequences*. Thousand Oaks, CA: Sage.
- Sverke, M., Hellgren, J., & Näswall, K. (2002). No security: A meta-analysis and review of job insecurity and its consequences. *Journal of Occupational Health Psychology*, 7(3), 242–264.
- U.S. Bureau of Labor Statistics. (2005). *Archived news releases: Union membership (annual)*. Retrieved from [http://www.bls.gov/schedule/archives/all\\_nr.htm#UNION2](http://www.bls.gov/schedule/archives/all_nr.htm#UNION2)
- Van den Bos, K., & Lind, E. A. (2002). Uncertainty management by means of fairness judgments. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 34, pp. 1–60). San Diego, CA: Academic Press.
- Waksberg, J. (1978). Sampling methods for random digit dialing. *Journal of the American Statistical Association*, 73, 40–46.
- Walster, E., Berscheid, E., & Walster, G. W. (1973). New directions in equity research. *Journal of Personality and Social Psychology*, 25(2), 151–176.

- Wanous, J. P., Reichers, A. E., & Hudy, M. J. (1997). Overall job satisfaction: How good are single-item measures? *Journal of Applied Psychology*, 82(2), 247–252.
- Williams, R. (2006). Generalized ordered logit/partial proportional odds models for ordinal dependent variables. *The Stata Journal*, 6(1), 58–82.
- Wheaton, B. (1999a). Social stress. In C. Aneshensel & J. C. Phelan (Eds.), *Handbook of the sociology of mental health* (pp. 277–300). New York, NY: Kluwer, Academic/Plenum Publishers.
- Wheaton, B. (1999b). The nature of stressors. In A. V. Horwitz & T. L. Scheid (Eds.), *A handbook for the study of mental health* (pp. 176–197). New York, NY: Cambridge University Press.

### Author Biographies

**Atsushi Narisada** is a doctoral student in the department of sociology at the University of Toronto. He is interested in the sources and consequences of distributive justice evaluations in the workplace. His current research examines the effects of perceived pay inequity on health, emotions, and behavior – and the status contingencies involved in those processes.

**Scott Schieman** is professor and Canada Research Chair in the department of sociology at the University of Toronto. His research focuses on the social psychology of inequality and its relationship to emotions and health outcomes. He is the lead investigator of the Canadian Work, Stress, and Health study (CANWSH), a national longitudinal study of workers.