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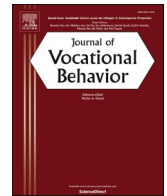
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Precarious work and workplace dignity during COVID-19: A longitudinal study

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ABSTRACT

Building upon the psychology of working theory (PWT), the goal of the present study was to examine longitudinal relations among precarious work, workplace dignity, and basic need fulfillment (survival, social contribution, and self-determination needs). To examine our hypotheses, we surveyed a group of working adults in the United States three times over three months. However, the study began in March 2020 – before widespread lockdowns, layoffs, and furloughs – and some participants lost their jobs on subsequent waves during April and May 2020. Therefore, a secondary aim of the study was to explore predictors of job loss in the first few months of the COVID-19 pandemic. We found that having precarious work in early March 2020 significantly predicted job loss due to COVID-19 in May 2020. For workers who remained employed during this time, greater precarious work predicting lower fulfillment of survival needs over time. In addition, workplace dignity and fulfillment of relatedness needs operated reciprocally, predicting greater levels of each other over time, and greater workplace dignity predicted greater fulfillment of social contribution, autonomy, and competence needs across time. These results expand PWT by suggesting that precarious work and workplace dignity are both important work conditions that predict fulfillment of different basic needs over time.

1. Introduction

A promising trend in vocational and organizational psychology is the increased focus on the nature and contexts of work, which has enriched research on work and career behavior (e.g., [Blustein et al., 2020](#); [Brewster & Molina, 2021](#); [Duffy et al., 2016](#)). At the broad level of work conditions, access to stable and decent work as opposed to precarious work (i.e., short-term, unstable, and insecure work) is a critical factor in determining the quality of one's work life ([Allan et al., 2021](#); [International Labor Organization \[ILO\], 2021](#); [Kalleberg, 2018](#)). At the relational and psychological level, being treated with dignity at work is an important factor in shaping people's relationships, access to power and voice, and overall sense of worth within the workplace ([Bolton, 2007](#); [Hicks, 2018](#); [Lucas, 2015](#)). Precarious work and workplace dignity also became particularly salient from the outset of the COVID-19 pandemic. In addition to anguishing health problems and loss of life, the pandemic has contributed to massive economic insecurity and job losses to varying degrees across the globe ([ILO, 2021](#)). However, these effects have been inequitable with precarious workers being particularly

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vulnerable to losing their jobs and livelihoods without access to a secure safety net (ILO, 2021). In addition, the pandemic has reemphasized the need to promote the dignity of work, such as recognizing the dignity of essential workers (e.g., grocery-store clerks; delivery persons) who have borne much of the pandemic's dangers (Cubrich, 2020). Therefore, precarious work and workplace dignity represent essential contextual and psychological factors that are uniquely relevant during the COVID-19 pandemic and may be important for workers in fulfilling their basic survival and psychological needs.

In foregrounding precarious work and workplace dignity, the primary goal of the current study was to explore dynamic interactions with the attributes of one's job and the relational environment at work (Blustein, 2006; Carr et al., 2016; Hicks, 2018). Specifically, informed by psychology of working theory (PWT; Blustein & Duffy, 2020; Duffy et al., 2016), we aimed to explore whether precarious work predicted lower workplace dignity over time, as mediated by the fulfillment of core work-based needs (including survival, social contribution, and self-determination needs). Given that PWT is a relatively new theory, scholars have mostly conducted cross-sectional studies in this area, and longitudinal research is critically needed to provide support for its propositions. Moreover, exploring the possibility of dynamic relations among these constructs can more realistically capture the experiences of workers, including experiences during the COVID-19 pandemic.

The inclusion of precarious work and workplace dignity also develops PWT by expanding its core constructs to gain greater nuance and expand its implications. For example, both constructs provide a means of critically understanding the risks of working, which often manifest in precarious work and violations of dignity at work (Bolton, 2007; McWhirter & McWha-Hermann, 2021). Moreover, studying precarious work and workplace dignity can deepen understanding of specific elements of work that have been overlooked but are essential in efforts to facilitate work that is stable, secure, and that affirms workers' sense of dignity (Blustein, 2019). Finally, conducting this study during the early months of the pandemic (from March 2020–May 2020) provided an opportunity to examine the ways in which this health crisis (also reflecting a highly relevant context of work) may influence precarious work, workplace dignity, and need fulfillment at work.

1.1. Theoretical background

This study represents an extension of PWT with the incorporation of precarious work and workplace dignity, both of which are relevant to the core tenets of PWT. Building on the psychology of working framework (PWF; Blustein, 2006), Duffy et al. (2016) developed a theoretical model of the predictors and mediators of decent work and ultimately of work fulfillment and well-being (see Duffy et al., 2016, p. 129 for a figure). PWT posits that the macro-level factors of economic constraints and marginalization strongly influence access to the essential resources that support people as they seek decent work and a fulfilling work life. Duffy and colleagues proposed that economic constraints and marginalization influence two prominent individually-based constructs—work volition and career adaptability—that facilitate the acquisition of decent work. Developed by the ILO to define aspirational standards for working conditions, decent work encompasses “(a) physical and interpersonally safe working conditions (e.g., absent of physical, mental, or emotional abuse), (b) hours that allow for free time and adequate rest, (c) organizational values that complement family and social values, (d) adequate compensation, and (e) access to adequate health care” (Duffy et al., 2016, p. 130).

The second half of the PWT model is particularly relevant in framing the questions posed in this study. PWT proposes that access to decent work allows people to fulfill core needs—survival, social contribution, and self-determination (Duffy et al., 2016). First, survival needs capture the extent to which work allows people to obtain shelter, food, housing, and other needed resources (Blustein, 2006), which reflects an essential – but often overlooked – aspect of work that has been salient during the COVID-19 pandemic. Without access to decent work, many people struggle to make ends meet and often fall into dangerous and precarious life circumstances (Blustein, 2019). Second, social contribution reflects the capacity of work to contribute to the social, psychological, and economic welfare of communities (Autin et al., 2019). Finally, self-determination needs derive from self-determination theory (SDT; Deci & Ryan, 2012) and include autonomy (the need to act voluntarily and with ownership of one's behavior), competence (the need to develop skills and mastery), and relatedness (the need for close relationships with others). Fulfilling these needs results in volitional, authentic, and high-quality motivation as well as well-being (Deci & Ryan, 2012). Moreover, fulfillment of PWT and self-determination needs may promote human dignity (Thomas & Lucas, 2019; van den Broeck et al., 2016), suggesting that the lack of decent work may erode experiences of dignity by harming need fulfillment.

The burgeoning empirical research on PWT has provided support for the specific theoretical connections in the model as well as overall model fit (see Blustein & Duffy, 2020). In relation to this study, research has revealed that fulfilling PWT needs is associated with life and job satisfaction (Autin et al., 2019), and considerable research supports the validity of SDT needs in predicting positive workplace outcomes (van den Broeck et al., 2016). Initial research has also broadly supported the propositions of the second half of the PWT model (decent work → PWT need fulfillment → work fulfillment and life satisfaction), although the majority of these have been cross-sectional (see Blustein & Duffy, 2020). As PWT continues to develop, longitudinal research testing its core propositions and exploring the potential for dynamic relations is critical. In addition, expanding PWT to include constructs relevant to current circumstances is essential for testing the broad contentions of the theory and understanding the nuanced experiences of workers. Therefore, we build on the theoretical principles of PWT to include new constructs (precarious work and workplace dignity) as well as explore dynamic longitudinal relations.

1.2. Precarious work

A key attribute of PWT is that work conditions matter and that they need to be explicitly incorporated into research, theory, practice, and public policy (Allan et al., 2021; Blustein et al., 2020; Duffy et al., 2016). Decent work and precarious work represent two

poles along a multidimensional conceptualization of work, which has broad consequences for people's work lives and their overall well-being (Blustein et al., 2020; Kalleberg, 2018). While decent work refers to the basic standard for acceptable employment, precarious work refers to uncertain and insecure work with a lack of a living wage and limited power and protections (Allan et al., 2021). Therefore, precarious work captures the inverse of decent work and is a subset of broader conceptualizations of poor-quality jobs, such as underemployment (Allan et al., 2017; Kalleberg, 2018).

Precarious work was increasing in post-industrial nations prior to COVID-19 (Allan et al., 2021; Kalleberg, 2018) and is expanding even more as the pandemic has progressed (ILO, 2021). Workers have not only feared job loss but also loss of working hours and income, contracting COVID-19 at work, and experiencing abuse and harassment in the workplace (Cubrich, 2020). This represents a critical threat to workers, with precarious work predicting numerous adverse outcomes in work-based, psychological, and physical contexts, such as financial insecurity, occupational hazards and harassment, exposure to racism and sexism, developmental lags (such as difficulty in starting a family), and diminished opportunities to experience meaningful work (Allan et al., 2021; Kalleberg, 2018). As a result, precarious work predicts difficulties in fulfilling basic needs (Blustein et al., 2020), psychological distress, such as depression and anxiety (Han et al., 2017; Kalleberg, 2018; Lloso et al., 2018), and a lack of dignity (Santilli et al., 2021).

In this study, we assess precarious work via relevant subscales from a measure of subjective underemployment, which captures the core elements of precarious work: involuntary temporary work, involuntary part-time work, and poverty wage employment (Allan et al., 2017; Author citation). First, involuntary temporary work is a key feature of precarious work, reflecting the instability and lack of control of a given job, which leads to job insecurity and contributes financial and psychological distress (Allan et al., 2017; Kalleberg, 2018). Second, involuntary part-time work represents a loss of voice and volition in conjunction with inadequate hours, which results in losses of financial capital and corresponding challenges in a wide array of life contexts (Allan et al., 2021; Kalleberg, 2018). Finally, poverty wage employment reflects low wages, which are associated with adverse consequences in people's capacity to meet their core needs and to feel valued at work and in society (Carr et al., 2016). Taken together, precarious work represents an important construct that has potential to expand PWT and contextualize the experience of workers during the COVID-19 pandemic.

1.3. Workplace dignity

An important contribution to PWT and the vocational psychology literature is the inclusion of workplace dignity as an important factor in understanding the quality of work. In a general sense, dignity reflects "our inherent value and worth" (Hicks, 2018, p. 2). Dignity scholars generally view the experience of value and self-worth as having roots in individuals' developmental history, which provides some of the core internal psychological structures that support feelings of dignity (Levine, 2017). Dignity is powerfully shaped by the context in which people live, relate, and work (Hodson, 2001; Lucas, 2015). Being in an environment in which one's internal sense of worth and value are affirmed can be a transformative experience that helps people feel engaged and connected to other people and their tasks (Bolton, 2007; Hodson, 2001; Lucas, 2015). However, at work people engage with others and with institutions that vary in the degree to which they affirm or detract from their dignity (Hicks, 2018; Lucas, 2015). Indeed, the workplace is a vulnerable context for people in that they cannot control with whom they interact and cannot easily control the outcomes of their efforts (Blustein, 2019). As a result, dignity at work has generated some attention in organizational studies, sociology, and human resources management because it is essential in building an affirmative and inclusive view of the psychological experience of working and may be a key outcome of work quality and other contextual factors (e.g., Bolton, 2007; Hicks, 2018; Lucas, 2015; Thomas & Lucas, 2019).

In this study, workplace dignity reflects the "self-recognized and other-recognized worth acquired from (or injured by) engaging in work activity" (Lucas, 2015, p. 2549). In empirical research, workplace dignity has functioned as both a predictor and outcome of various aspects of psychological, work-based, and organizational factors. As a predictor, workplace dignity is associated with positive individual outcomes, such as employee engagement, organizational citizenship behaviors, and job satisfaction; workplace dignity is also inversely related to burnout and turnover intentions (Bolton, 2007; Thomas & Lucas, 2019). In qualitative and quantitative studies, workplace dignity has been predicted by the quality of work, worker agency, creativity, meaningful work, equity-based organizational practices, and adaptive communication patterns in the workplace (Bolton, 2007; Hodson, 2001; Thomas & Lucas, 2019). In the present study, we use an operationalization of workplace dignity that includes respectful interaction, competence and contribution, equality, inherent value, and general dignity perceptions (Thomas & Lucas, 2019). Taken together, these five factors define the broad contours of workplace dignity, which reflects an essential attribute of working that will serve to enrich theory development, research, practice, and systemic reforms.

1.4. The present study

In line with the need for an emphasis on precarious work and workplace dignity in vocational psychology, the primary goal of the current study was to examine longitudinal relations among precarious work, workplace dignity, and basic need fulfillment (survival, social contribution, and self-determination). We accomplished this goal by surveying a sample of working adults three times over three months in the United States, which has a porous safety net and therefore provides an opportunity to examine precarious work in a context where workers are often not supported. However, we began this study in March 2020, before widespread lockdowns, layoffs, and furloughs. Therefore, many of our participants lost their jobs on subsequent waves that occurred during the early stages of the COVID-19 economic crisis (April and May 2020). This provided an opportunity to examine a secondary aim: whether precarious work, basic needs, and workplace dignity predicted job loss during the transition into the COVID-19 economic crisis. As discussed previously, the pandemic did not affect everyone equally, with low wage workers on temporary contracts and with few protections being more likely to lose their jobs (ILO, 2021). Therefore, we hypothesized that:

Hypothesis 1. Greater precarious work at Time 1 (T1) would predict job loss at Time 2 (T2) and Time 3 (T3).

For participants who remained employed throughout the study period, we examined longitudinal relations among precarious work, need fulfillment, and workplace dignity. As predicted in several theoretical perspectives (e.g., Allan et al., 2021; Blustein, 2006; Duffy et al., 2016), unstable, unreliable, and poorly paid work may disrupt people's ability to meet their survival needs, feel like they are contributing to their communities, and meet their self-determination needs. Therefore, given the propositions of PWT and other frameworks discussed previously, we hypothesized that:

Hypotheses 2–6. Greater precarious work would predict lower fulfillment of survival (H2), social contribution (H3), autonomy (H4), relatedness (H5), and competence (H6) needs over time.

When people are not able to meet these needs, they may in turn experience less workplace dignity (e.g., Hodson, 2001; Thomas & Lucas, 2019). Workplace dignity has been a central outcome in work-based justice movements (e.g., civil rights, labor movements) and is a fundamental human right, which makes it a key target for research and intervention (ILO, 2008; United Nations Declaration of Human Rights, 1948). Therefore, following from the theories and empirical research described previously, we predicted that:

Hypotheses 7–11. Greater fulfillment of survival (H7), social contribution (H8), autonomy (H9), relatedness (H10), and competence (H11) needs would predict greater workplace dignity over time.

1.4.1. Alternative models

Despite our contention that workplace dignity would function as an outcome in the current study, workplace dignity has functioned as a predictor, mediator, and outcome in various studies. Moreover, study variables may not relate to one another in the linear way described by PWT and instead may operate dynamically, affecting each other over time. Given this possibility, we tested the theoretical model based on PWT against two alternative models. The first alternative model tested the reverse of the theoretical model, with workplace dignity predicting need fulfillment, which in turn predicted precarious work. In other words, having a strong sense of workplace dignity may provide a safe environment for people to meet their basic needs, which in turn might affect whether they perceive their work as precarious. Finally, we tested a full reciprocal model that combined the theoretical and reverse models. This model tested the possibility that precarious work, need fulfillment, and workplace dignity operate dynamically and reciprocally. As noted previously, this represents a critical step in testing PWT propositions.

2. Method

2.1. Participants

The primary sample consisted of 455 adults who maintained employment through the first three months of the pandemic. Participants ranged in age from 18 to 70 ($M = 33.69$, $SD = 11.03$). Of the participants, 44.5% ($n = 198$) identified as women, 53.5% ($n = 238$) as men, 1.1% ($n = 5$) as nonbinary, 0.4% ($n = 2$) as genderfluid, and 0.2% ($n = 1$) as a transgender man. Most participants self-identified as White/European American ($n = 338$, 76.0%) followed by African/African-American/Black ($n = 36$, 8.1%), Asian/Asian American/South Asian/East Asian/Pacific Islander ($n = 36$, 8.1%), Hispanic/Latina/o/x American ($n = 11$, 2.5%), Multiracial/Biracial/Multiracial Indigenous ($n = 18$, 4.0%), Arab American/Middle Eastern ($n = 4$, 0.9%), and American Indian/Native American/First Nation ($n = 1$, 0.2%).

Regarding participants' yearly household income, participants reported earning less than \$25,000 per year ($n = 56$, 12.6%), \$25,000–\$50,000 per year ($n = 110$, 24.7%), \$51,000–\$75,000 per year ($n = 89$, 20.0%), \$76,000–\$100,000 per year ($n = 86$, 19.3%), \$101,000–\$125,000 per year ($n = 45$, 10.1%), and \$126,000+ per year ($n = 59$, 13.3%). Regarding highest level of education, participants reported having some high school or less ($n = 5$; 1.1%), a high school diploma or GED ($n = 34$; 7.6%), a vocational school diploma ($n = 19$; 4.3%), some college ($n = 77$; 17.3%), a college degree ($n = 184$; 41.3%), a master's degree ($n = 67$; 15.1%), and a doctoral or professional degree ($n = 21$; 4.7%). Finally, the sample represented a wide range of job titles, such as salesperson ($n = 13$; 2.9%), analyst ($n = 11$; 2.5%), engineer ($n = 10$; 2.2%), manager ($n = 10$; 2.2%), teacher ($n = 9$; 2.0%), customer service representative ($n = 6$; 1.3%), and office manager ($n = 6$; 1.3%). Most participants were employed full-time ($n = 313$; 68.8%), followed by part-time ($n = 123$; 27.5%), and most were permanent employees ($n = 301$; 66.2%), followed by other categories of temporary, contract, or gig work ($n = 144$; 31.6%).

2.2. Instruments

2.2.1. Precarious work

We measured precarious work with the short forms of three subscales from the Subjective Underemployment Scales: involuntary temporary work, involuntary part-time work, and poverty wage employment (Allan et al., 2017; Author citation). Each subscale consists of three items answered on a 7-point Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Sample items include “My job is temporary, but I want a permanent position” (involuntary temporary work), “The number of hours I work is not enough” (involuntary part-time work), and “My pay is not enough to live on” (poverty wage employment). Allan et al. (2017) found the subscales to correlate expectedly with financial deprivation, meaningful work, withdrawal intentions, and multiple facets of job satisfaction. The authors also reported good estimated internal consistencies for involuntary temporary work ($\alpha = .97$), involuntary part-time work ($\alpha = .95$),

and poverty wage employment ($\alpha = .96$).

While these subscales are part of a larger scale measuring six dimensions of underemployment operating in a multifactor model, recent theory and research suggests that involuntary temporary work, involuntary part-time work, and poverty wage employment group together under a precarious work construct (Author citation). Therefore, we tested single-factor, correlational, higher order, and bifactor confirmatory models for these subscales. The bifactor model had the best fit to the data, $\chi^2(18) = 22.37, p = .216$, comparative fit index (CFI) = .998, root mean square error of approximation (RMSEA) = .023 (90% CI [0.000, 0.051]), and standardized root mean square residual (SRMR) = .013 and was significantly better than the correlational model, $\chi^2(24) = 42.54, p = .011$, CFI = .992, RMSEA = .042 (90% CI [0.020, 0.062]), and SRMR = .026, $\Delta\chi^2(6) = 18.44, p = .002$. Moreover, bifactor indices for the general factor indicated a strong unidimensional factor structure that merited using subscale items as indicators for a general factor (explained common variance = .642, omega = .973, omega hierarchical = .822, relative omega = .845, percent of uncontaminated correlations = .750, H = .916, factor determinacy = .911; [Reise et al., 2013](#); [Rodriguez et al., 2016](#)). Therefore, we considered involuntary temporary work, involuntary part-time work, and poverty wage employment as indicators of a single precarious work construct, and the estimated internal consistencies for the total score in the current study were $\alpha = .93$ (T1), $\alpha = .93$ (T2), and $\alpha = .94$ (T3).

2.2.2. Work need fulfillment

We measured work needs with the Work Need Satisfaction Scale, which consists of five subscales measuring survival social contribution, competence, relatedness, and autonomy needs ([Autin et al., 2019](#)). Each subscale consists of four items answered on a 7-point Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Each item begins with the stem, "My work allows me to" and sample items include, "Have the resources to maintain the health of myself and my family" (survival), "Feel like I am making a difference" (social contribution), "Feel like I am good at my job" (competence), "Feel like I belong" (relatedness), and "Feel free to do things my own way" (autonomy). In the scale development article, [Autin et al. \(2019\)](#) reported that the subscales correlated in the expected direction with decent work, job satisfaction, life satisfaction, prosocial intentions, and general self-determination needs. The authors also reported estimated internal consistencies of survival ($\alpha = .95$), social connection ($\alpha = .94$), competence ($\alpha = .93$), relatedness ($\alpha = .93$), and autonomy ($\alpha = .82$). The estimated internal consistencies in the present study across all three waves were survival ($\alpha = .95$ [T1], 0.95 [T2], 0.95 [T3]), social connection ($\alpha = .89$ [T1], 0.90 [T2], 0.91 [T3]), competence ($\alpha = .96$ [T1], 0.97 [T2], 0.96 [T3]), relatedness ($\alpha = .94$ [T1], 0.95 [T2], 0.96 [T3]), and autonomy ($\alpha = .87$ [T1], 0.88 [T2], 0.88 [T3]).

2.2.3. Workplace dignity

We measured workplace dignity with the 14-item Workplace Dignity Scale ([Thomas & Lucas, 2019](#)). The scale consists of five subscales (respectful interaction [three items], competence and contribution [three items], equality [two items], inherent value [three items], and general dignity [three items]) that are answered on a 7-point Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*). In the development study, each subscale loaded onto a higher order workplace dignity factor ([Thomas & Lucas, 2019](#)). Sample items include, "I have dignity at work" and "I am treated with respect at work". In the scale development article, [Thomas and Lucas \(2019\)](#) found the workplace dignity scores to correlate expectedly with interpersonal justice, workplace competence, status, incivility, and workplace alienation. They also reported an estimated internal consistency of $\alpha = .96$. The estimated internal consistencies in the current study across all the three respective waves were $\alpha = .97$ (T1), $\alpha = .97$ (T2), and $\alpha = .97$ (T3).

2.3. Procedure

After obtaining Institutional Review Board (IRB) approval, we recruited participants through the online data collection service Prolific Academic. Prolific allows access to a diverse sample of working adults that approximate the working US population ([BLS, 2021](#)). Prolific is participant-centered platform designed for academic research, and it requires compensating participants at least minimum wage ([Palan & Schitter, 2018](#)). In addition, the platform provides higher quality data and more diversity among participants than other online recruitment platforms ([Peer et al., 2017](#)). We posted a link including an informed consent document and the survey itself on Prolific, and to join the study, participants had to a) be over the age of 18, b) reside within the United States or Canada, and c) be employed at least part-time. Because we designed our study before the COVID-19 pandemic, at the time we were concerned that not enough participants would change jobs in a three-month period to ensure variability in precarious work. Therefore, we recruited a subset of participants who reported that they were due to start a new job in the next month ($n = 95$).

Prolific has a longitudinal study feature that allows researchers to recontact study participants for subsequent waves. We contacted participants in three waves: baseline, one month, and two months. We chose a one-month lag between waves to allow time for change to occur on study variables. We posted the initial survey on Prolific in early March 2020, before state and local governments began lockdown and stay-at-home orders due to COVID-19. The second wave began in early April and the third in early May. After the first wave when the crisis began, we added items asking how participants' work was affected by COVID-19, including whether they experienced job loss due to the pandemic (i.e., "Have you lost your job because of the COVID-19 pandemic?"). We compensated participants \$2.25 for each completed wave of the study, which amounted to ~\$12.50/hour of compensation and therefore met recommendations to compensate participants at least minimum wage for their time ([Silberman et al., 2018](#)). To minimize attrition, we provided participants one-week reminders after our initial invitations for the study waves.

The initial sample consisted of 522 participants. To create the database for the job loss analysis, we removed participants who reported being a full-time student ($n = 21$), for a final sample size of 501. We use this sample ($N = 501$) to conduct the unemployment analysis and test Hypothesis 1. As noted previously, participants who became unemployed could still complete demographic and employment information for each wave but were unable to complete to questionnaires because they focused on their work specifically.

To create the employed-only dataset for our main analysis, we removed participants who became unemployed over the course of the study ($n = 46$), for a final sample size of 455. We used this sample to test Hypotheses 2–11.

2.4. Analysis plan

To examine whether study variables predicted job loss due to COVID-19, we tested a latent regression model with each study variable at Time 1 predicting job loss at Times 2 and 3. We tested the model in Mplus with robust maximum likelihood (MLR; Muthén & Muthén, 2017). To analyze the primary model, we used latent variable, autoregressive cross-lagged panel models (CLPMS) in Mplus, also with MLR (Muthén & Muthén, 2017). For indicators, we used individual scale items, except for precarious work and workplace dignity because they had subscales to use as indicators. For all CLPMS, we allowed the same indicators across waves to correlate with one another. For fit indices, we used chi-square (χ^2), the comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR). A significant χ^2 can indicate poor fit is unreliable in larger samples. Criteria for the CFI and RMSEA range from less conservative (CFI ≥ 0.90 ; RMSEA ≤ 0.10 , SRMR ≤ 0.10) to more conservative (CFI ≥ 0.95 ; RMSEA ≤ 0.08 ; SRMR ≤ 0.06 ; Hu & Bentler, 1999). We evaluated the difference between nested models with a Satorra–Bentler scaled chi-square difference test (Muthén & Muthén, 2017).

We also tested longitudinal measurement invariance by progressively adding constraints to the measurement model and assessing changes in fit. After establishing the baseline model fit indices (configural model), we restricted factors loadings to be equivalent for each construct across time (metric invariance). Next, we restricted corresponding indicator means (scalar invariance) and both item residual and factor variances (strict invariance). Although chi-square difference tests can evaluate changes in fit, these are highly sensitive to sample size. Therefore, we followed recommendations to evaluate changes in fit by assessing whether $\Delta CFI \leq 0.01$ and $\Delta RMSEA \leq 0.015$ (Chen, 2007; Cheung & Rensvold, 2002).

To evaluate study hypotheses, we tested four structural models and tested changes in fit. For all models, we allowed variables to correlate within waves. Model 1 was a baseline model that included only paths between the same variables across time (i.e., no cross-lagged paths). Model 2 was the theoretical model based on PWT that included paths from precarious work to the need fulfillment variables, which in turn predicted workplace dignity. Model 3 tested the reverse model with workplace dignity predicting the need fulfillment variables, which in turn predicted precarious work. Finally, Model 4 was the full reciprocal model that included all cross-lagged paths from Models 2 and 3.

3. Results

3.1. Job loss analysis

Fig. 1 displays the latent structural model with the Time 1 study variables predicting job loss due to the COVID-19 pandemic at Times 2 and 3 ($N = 501$). This model had an acceptable fit to the data, $\chi^2(371) = 1000.001, p < .001, CFI = .94, RMSEA = .06, 90\% CI [0.05, 0.06],$ and $SRMR = .05$. Partially supporting Hypothesis 1, precarious work at T1 significantly predicted job loss due to COVID-19 at T3 (0.21) but not at T2. No other study variables predicted job loss at T2 or T3. This model predicted 11.0% of the variance in job loss at T2 and 45.5% at T3. However, the latter value was large due to the direct relation from T2 job loss to T3 job loss. When we removed this path, the model explained 13.7% of the variance in T3 job loss.

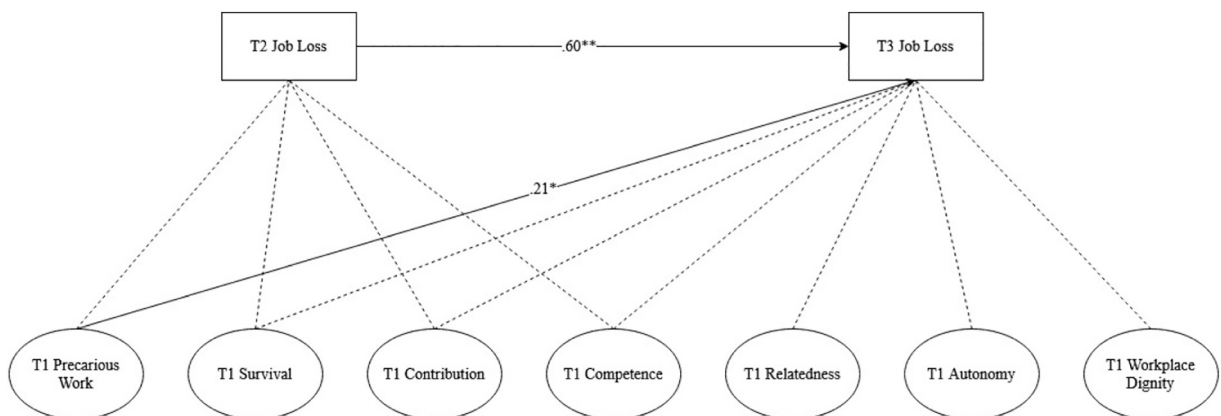


Fig. 1. Study variables at Time 1 predicting job loss due to the COVID-19 pandemic at Times 2 and 3. Note: Solid lines represent significant relations and dashed lines represent non-significant relations. * $p < .05$ ** $p < .001$. Correlations among study variables are not shown.

Table 1
Correlations among study variables.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. PW T1	–																				
2. PW T2	.84	–																			
3. PW T3	.85	.89	–																		
4. Sur. T1	–.65	–.66	–.60	–																	
5. Sur. T2	–.61	–.72	–.68	.75	–																
6. Sur. T3	–.65	–.69	–.69	.77	.79	–															
7. SC T1	–.32	–.32	–.28	.54	.42	.34	–														
8. SC T2	–.29	–.37	–.32	.45	.51	.39	.72	–													
9. SC T3	–.32	–.33	–.35	.41	.43	.47	.66	.75	–												
10. Com. T1	–.22	–.20	–.12	.37	.28	.23	.49	.36	.32	–											
11. Com. T2	–.11	–.21	–.12	.23	.35	.25	.33	.48	.43	.55	–										
12. Com. T3	–.13	–.12	–.12	.24	.26	.29	.24	.38	.47	.52	.62	–									
13. Rel. T1	–.30	–.28	–.27	.44	.39	.39	.57	.52	.48	.60	.40	.42	–								
14. Rel. T2	–.24	–.34	–.28	.43	.41	.38	.46	.59	.48	.42	.57	.50	.68	–							
15. Rel. T3	–.23	–.23	–.23	.40	.35	.42	.42	.50	.58	.41	.49	.62	.69	.78	–						
16. Aut. T1	–.22	–.20	–.12	.37	.24	.18	.47	.41	.34	.48	.42	.34	.60	.47	.43	–					
17. Aut. T2	–.17	–.25	–.15	.32	.35	.24	.40	.53	.43	.35	.53	.45	.47	.63	.58	.61	–				
18. Aut. T3	–.13	–.14	–.14	.24	.20	.24	.33	.42	.45	.32	.43	.52	.43	.53	.66	.57	.74	–			
19. WD T1	–.34	–.35	–.32	.47	.42	.42	.47	.47	.41	.44	.41	.42	.69	.66	.61	.58	.52	.46	–		
20. WD T2	–.29	–.36	–.31	.48	.49	.41	.45	.52	.50	.42	.52	.46	.62	.74	.70	.46	.61	.53	.80	–	
21. WD T3	–.31	–.33	–.31	.43	.40	.46	.38	.44	.48	.32	.44	.54	.62	.70	.76	.42	.57	.60	.77	.82	–

Note: All correlations are significant at <0.05 . PW = precarious work; Sur = survival needs; SC = social contribution needs; Com. = competence needs; Rel = relatedness needs; Aut = autonomy needs; WD = work dignity.

3.2. Preliminary analyses

We conducted the following preliminary and main analyses only on the sample that maintained employment throughout the study ($N = 455$). Table 1 displays the correlations among study variables and Table 2 displays the descriptive statistics. All variables had absolute values of skewness and kurtosis within acceptable ranges ($<|3|$ for skewness and $<|10|$ for kurtosis; Weston & Gore, 2006). In total, 10.77% ($n = 49$) of the employed sample only completed one wave, 19.12% ($n = 87$) completed two waves, and 79.11% ($n = 319$) completed all three waves, which are better dropout rates than what is typical for online studies (Daly & Nataraajan, 2015). To assess if the participants who dropped out of the study had different characteristics than those who stayed in the study, we assigned a dummy code to those who dropped out of the study and those who remained in the study. This variable was not related to workplace dignity, relatedness needs, and autonomy needs, but had significant relations with T1 precarious work ($r = .19, p < .001$), T1 survival needs ($r = -0.19, p < .001$), T1 social contribution needs ($r = -0.13, p = .006$), and T1 competency needs ($r = -0.19, p < .001$). Therefore, people with greater precarious work and less survival, social contribution, and competence need fulfillment were more likely to drop out after T1. The dropout variable was also related to age ($-0.17, p = .001$) and level of education ($-0.10, p = .044$), with older people and people with higher levels of education being less likely to drop out. The drop out variable was not related to gender ($r = -0.06$), income ($r = -0.09$), or subjective social class ($r = .05$).

To assess other patterns of missing data, we conducted Little's missing completely at random test in SPSS for all study variables. This test was not significant, $\chi^2(181) = 208.87, p = .08$, suggesting that the data was missing completely at random. Given that drop out was not related to the dependent variable (i.e., workplace dignity) and there were no other patterns of missing data, we used full information maximum likelihood to calculate estimates with missing data (Schafer & Graham, 2002). Finally, we created a dummy code for those who were not due to start a new job (0) and those who were due to start a new job at the beginning of the study (1) and related it to study variables. This subsample did not differ in terms of workplace dignity ($-0.08, p = .114$) but had greater precarious work (0.34, $p < .001$) and less survival ($-0.32, p < .001$), social contribution ($-0.16, p < .001$), competence ($-0.13, p = .007$), relatedness ($-0.10, p = .042$), and autonomy need fulfillment ($-0.14, p = .003$). However, when we included this dummy code in the analyses, it did not change the pattern of results, so we reported further results without this covariate.

3.3. Invariance testing

Table 3 displays the results of the invariance tests, which suggest that factor loadings, item intercepts, and item residual variances were invariant across time. While restricting factor variances resulted in a meaningful decline in CFI (0.013), the increase in RMSEA was not meaningful (0.003). This suggests factor variances were invariant, but to ensure the results were not biased, we applied all restrictions to the final model described in the next section. These restrictions did not change the pattern of results, so we reported results without invariance constraints.

3.4. Model testing

Model 1 – the baseline model – had acceptable fit to the data, $\chi^2(3241) = 5692.75, p < .001$, CFI = .92, RMSEA = .04, 90% CI [0.04, 0.04], and SRMR = .12. Model 2 – the theoretical model – also had acceptable fit to the data, $\chi^2(3221) = 5579.27, p < .001$, CFI = .93, RMSEA = .04, 90% CI [0.04, 0.04], and SRMR = .09, and significantly improved fit over Model 1, $\Delta\chi^2(20) = 95.05, p < .001$. Model 3

Table 2
Descriptive statistics for study variables.

Variable	<i>M</i>	<i>SD</i>
1. Precarious work T1	27.69	14.49
2. Precarious work T2	26.82	14.23
3. Precarious work T3	25.52	14.10
4. Survival T1	21.27	6.01
5. Survival T2	21.77	5.64
6. Survival T3	22.13	5.61
7. Contribution T1	18.25	5.77
8. Contribution T2	18.59	5.78
9. Contribution T3	19.02	5.72
10. Competence T1	22.55	4.61
11. Competence T2	22.43	4.95
12. Competence T3	22.58	4.56
13. Relatedness T1	20.12	5.53
14. Relatedness T2	20.20	5.57
15. Relatedness T3	20.11	5.79
16. Autonomy T1	19.14	5.25
17. Autonomy T2	19.42	5.14
18. Autonomy T3	19.57	5.17
19. Work dignity T1	77.10	15.65
20. Work dignity T2	78.14	15.43
21. Work dignity T3	77.85	15.72

Table 3
Longitudinal invariance tests for cross-lagged panel model.

Invariance constraint	χ^2	df	$\Delta \chi^2$	<i>p</i>	CFI	Δ CFI	RMSEA	Δ RMSEA
Configural	5692.75	3241	–	–	.924	–	.041	–
Factor loadings	5741.46	3283	82.37	< .001	.924	.000	.041	.000
Item intercepts	5835.80	3339	93.75	.001	.923	.001	.041	.000
Item residual variances	5870.09	3395	63.27	.235	.923	.000	.040	.001
Factor variances	6299.11	3409	328.64	< .001	.910	.013	.043	.003

Note: Chi-square difference tests are with the Satorra-Bentler correction.

– the reverse model – also had acceptable fit, χ^2 (3221) = 5568.15, *p* < .001, CFI = .93, RMSEA = .04, 90% CI [0.04, 0.04], and SRMR = .07, and significantly improved upon Model 1, $\Delta\chi^2$ (20) = 110.85, *p* < .001. Finally, Model 4 – the full reciprocal model – had acceptable fit, χ^2 (3201) = 5481.90, *p* < .001, CFI = .93, RMSEA = .04, 90% CI [0.04, 0.04], and SRMR = .06, and significantly improved upon Model 1, $\Delta\chi^2$ (40) = 184.48, *p* < .001, Model 2, $\Delta\chi^2$ (20) = 89.05, *p* < .001, and Model 3, $\Delta\chi^2$ (20) = 75.01, *p* < .001. Therefore, Model 4 was the best fitting model and we retained it for further analysis.

To further refine the model, we first tested the partial mediation model by allowing reciprocal cross-lagged paths between precarious work and workplace dignity. This change did not significantly improve fit, $\Delta\chi^2$ (4) = 2.84, *p* = .586. Next, we tested the equilibrium assumption by restricting like paths to be the same across time (e.g., T1 precarious work to T2 survival need fulfillment and T2 precarious work to T3 survival need fulfillment; Cole & Maxwell, 2003). This did not significantly change the fit of the model, χ^2 (3228) = 5516.82, *p* < .001, CFI = .93, RMSEA = .04, 90% CI [0.04, 0.04], and SRMR = .07, $\Delta\chi^2$ (27) = 37.08, *p* = .094, so we retained it as the more parsimonious model. To further increase parsimony, we pared down the model by eliminating non-significant paths (Kline, 2016). Again, this did not significantly change the fit of the model, χ^2 (3242) = 5534.78, *p* < .001, CFI = .93, RMSEA = .04, 90% CI [0.04, 0.04], and SRMR = .07, $\Delta\chi^2$ (14) = 18.39, *p* = .190, so we retained the pared model as our final model.

Fig. 2 displays the standardized path coefficients of this model. Supporting Hypothesis 2, precarious work significantly and negatively predicted fulfillment of survival needs (–0.38, –0.42), but we found no support for Hypotheses 3–6 because precarious work did not significantly predict fulfillment of any other basic needs. While we found support for Hypothesis 10 because relatedness

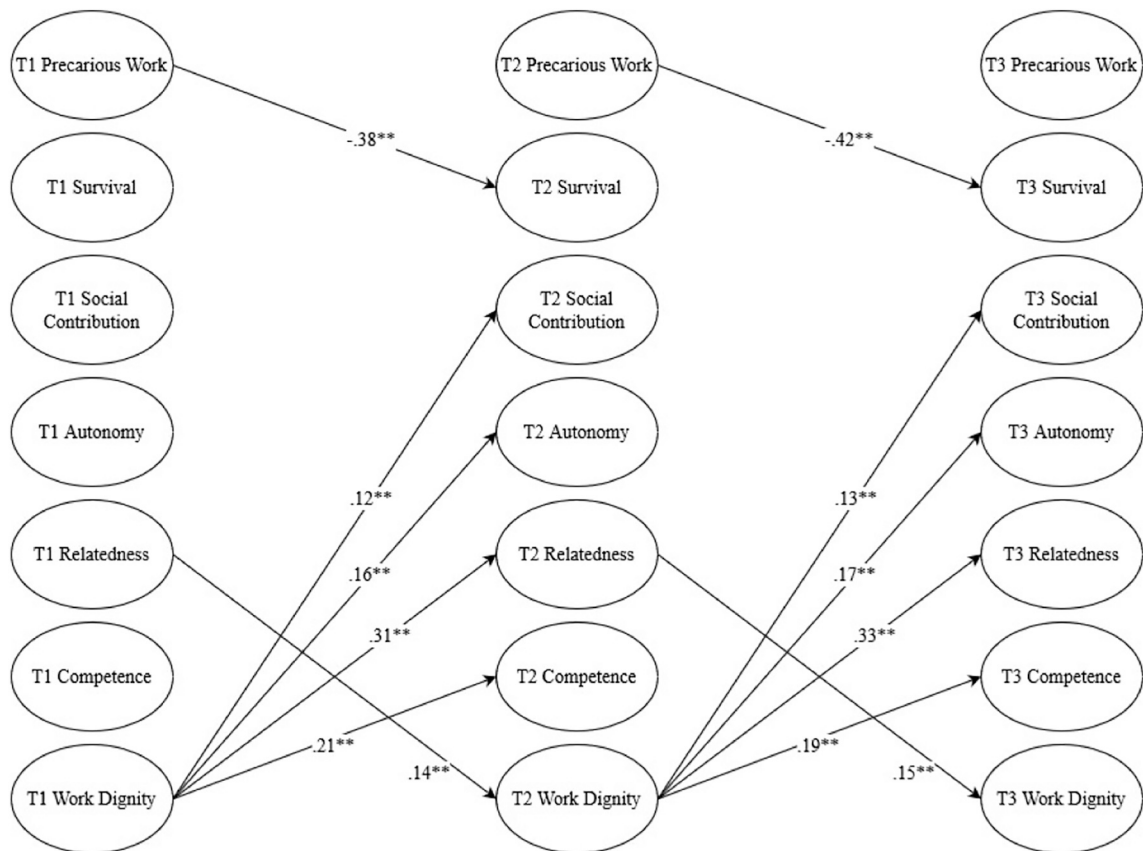


Fig. 2. Final structural model with cross-lagged relations among precarious work, basic needs, and work dignity. Note: To aid readability, autoregressions and correlations among variables are not shown.

positively predicted workplace dignity (0.14, 0.15), we found no support for Hypotheses 7, 8, 9 and 11 because no other need fulfillment variables positively predicted workplace dignity. Aside from our specific hypotheses, a key unexpected finding was that workplace dignity positively predicted social contribution (0.12, 0.13), autonomy (0.16, 0.17), relatedness (0.31, 0.33), and competence (0.21, 0.19) need fulfillment. The amount of variance explained in the final model was 87.9% (T2) to 91.3% (T3) for precarious work and 66.4% (T2) and 74.5% (T3) for workplace dignity.

3.5. Indirect effects

We tested the five possible indirect effects in the final structural model using MLR's robust standard errors, which are significant if the 95% confidence interval does not contain zero. The indirect effects from T1 relatedness to T2 workplace dignity to T3 social contribution, 95% CI [0.006, 0.032], T3 competence, 95% CI [0.010, 0.050], T3 relatedness, 95% CI [0.023, 0.070], and T3 autonomy, 95% CI [0.013, 0.044], were significant. The indirect effect from T1 workplace dignity to T2 relatedness to T3 workplace dignity, 95% CI [0.001, 0.018], was also significant.

4. Discussion

The primary goal of the present study was to longitudinally examine the dynamic relations among precarious work, fulfillment of basic survival and psychological needs, and workplace dignity. However, the unexpected onset of the COVID-19 economic crisis led to a secondary aim to examine predictors of job loss in the first few months of the COVID-19 pandemic. We found that having precarious work in early March 2020 – before widespread lockdowns, layoffs, and furloughs – significantly predicted job loss due to COVID-19 in May 2020. We then tested our main study hypotheses with workers who remained employed during this time. Supporting hypotheses, precarious work predicted lower levels of meeting survival needs across time, and greater relatedness need fulfillment predicted greater workplace dignity. However, contrary to hypotheses, greater workplace dignity predicted greater social contribution, autonomy, relatedness, and competence need fulfillment across time, rather than vice versa. These results expand PWT by incorporating workplace dignity as an important work condition that predicts psychological need fulfillment. They also highlight the role of precarious work in creating job insecurity and harming people's ability to meet their survival needs.

The unique timing of this study provided an opportunity to examine how our study variables predicted job loss due to the COVID-19 pandemic specifically. As predicted, pre-pandemic precarious work was a strong predictor of job loss two months into the pandemic. Precarious work consists of low wage, part-time, and temporary work and is related to a greater likelihood of being laid off during economic downturns (Kalleberg, 2009). Specifically, having a precarious job predicted a greater likelihood of job loss during the COVID-19 pandemic because people in precarious work are less able to work remotely and often cannot socially distance at work (Cubrich, 2020; Kinder & Ross, 2020). For example, precarious work is more common in the private service industry (ILO, 2016), which was an industry heavily affected by early lockdowns. Overall, our results highlight the real dangers people in precarious jobs face during economic turbulence and how the lack of decent work can be a direct threat to job security. Accordingly, as the labor market becomes more precarious, scholars can expand PWT to recognize precarious work and decent work as potential poles on an employment continuum.

For participants who maintained employment for the duration of the study, we examined precarious work as a predictor of basic need fulfillment and workplace dignity over time. The global rise of unstable and insecure work and the concordant decline of decent work pose a serious threat to people's ability to meet their basic needs and maintain a sense of dignity at work (Allan et al., 2021; Cooper & May, 2007). Specifically, transactional economic arguments that prioritize profits and discourage policies like mandating living wages become predominant over human rights, social justice, and human dignity perspectives (Carr et al., 2016). The COVID-19 pandemic exposed and exacerbated these issues (Rudolph et al., 2021), further highlighting the need for a dignity perspective – dignity is not only a basic human right but central to a fulfilling life as well (Hodson, 2001). In this context, understanding predictors and outcomes of dignity at work is an important direction for research, and PWT provides a useful framework for identifying these factors.

Specifically, PWT proposes that the quality of work predicts workers' ability to meet their basic needs, which in turn promotes positive outcomes, such as fulfilling work and mental health (Blustein, 2006; Duffy et al., 2016). However, instead of this one-way model, we found that a reciprocal model fit the data best. First, although we expected precarious work to predict all the basic needs, it only predicted less survival need fulfillment. As supported by previous research, precarious work threatens people's ability to meet their survival needs by not providing a living wage and consistent work to maintain income (Allan et al., 2021). Second, we hypothesized that meeting basic needs would predict greater workplace dignity over time, but only greater relatedness needs predicted greater workplace dignity. Relatedness needs predicting workplace dignity is consistent with the dignity literature suggesting that when people have good relationships and are valued by their colleagues, they experience a greater sense of dignity in the workplace (e.g., Hodson, 2001; Thomas & Lucas, 2019).

Relatedly, in the reciprocal model, greater workplace dignity predicted greater social contribution, autonomy, relatedness, and competence needs over time. This is contrary to our predictions based on PWT and contradicts workplace dignity perspectives that consider variables like autonomy, relatedness, and competence as key drivers of workplace dignity (e.g., Hodson, 2001). From a PWT perspective, this unexpected result may have occurred because workplace dignity is a key work condition, like decent work itself. Specifically, rather than being an experience that arises from decent work, workplace dignity may be a work condition that encompasses the extent to which people are appreciated and valued at work and treated with respect (Thomas & Lucas, 2019). This, in turn, could allow for basic psychological needs to be met because people are free to exercise their agency, connect with others, master skills, and contribute to society. Regardless, our results contradict the linear PWT perspective that decent work leads to need fulfillment. For

example, workplace dignity and relatedness needs operated reciprocally to reinforce each other over time, and workplace dignity mediated the relations between relatedness need fulfillment and the other psychological need fulfillment variables. Therefore, psychological need fulfillment is likely a dynamic process that interplays with the relational environment at work, suggesting that the PWT should take into account these factors.

Taken together, workplace dignity predicted the psychological need fulfillment variables, and precarious work predicted survival need fulfillment over time. This suggests that different work conditions may link to different basic needs and that PWT scholars should consider expanding their conceptualization of decent work to encompass a broader range of experiences, particularly interpersonal ones (Pouyau, 2016). This is consistent with international qualitative studies of decent work that suggest that people include a variety of experiences in their definitions of decent work, including workplace dignity (e.g., Di Fabio & Kenny, 2019; Ribeiro et al., 2019). Similarly, in an historical analysis of decent work, Brill (2021) described how the diverse constituents of the ILO debated as to whether they should include dignity into the conceptualization of decent work. Ultimately, the ILO decided not to include workplace dignity in their decent work agenda because dignity was viewed as too radical and not consistent with the needs of employers and governments. However, the present findings may serve to bring this debate back into the discussions about the optimal composition of baseline conditions of work.

4.1. Practice and systemic implications

Our study suggests that improving people's capacity to meet their basic needs through work would require interventions for both precarious work and workplace dignity, which also have implications for general well-being and mental health (e.g., Autin et al., 2019; Thomas & Lucas, 2019). This would include remedial efforts at the individual level and preventative interventions at the systemic level. Building from PWF and PWT, Blustein et al. (2019) developed psychology of working counseling and psychology of working systemic intervention as parallel approaches to addressing each respective level. These intervention strategies include conducting a needs assessment, engaging in critical reflection and action, encouraging proactive engagement, and building social and community support. Therefore, at the individual level, counselors working with clients with precarious work or a lack of workplace dignity may start by conducting a needs assessment of how well their work lives are meeting their basic needs. If clients are not able to meet their needs, a key focus for counseling would be ensuring that their core needs are met, such as connecting them to community resources (e.g., food banks, shelters, support groups). Raising critical consciousness and engaging in critical action may also reduce self-blame and mitigate its effect on clients' well-being (Diemer et al., 2016); moreover, helping clients explore their options for changing jobs and finding better work may be an important direction for counseling and represents a central part of vocational psychology more broadly (Brown, 2020).

At the systemic level, promoting policies that seek to address the prevalence of precarious work and the underlying threats to workplace dignity would be critical. The COVID-19 pandemic exposed and exacerbated current inequities in the labor market, including the rising problem of precarious work (Rudolph et al., 2021). While COVID-19 relief bills in the United States provided much needed support for workers, such as extending unemployment insurance to contract workers, permanent policies would be critical to mitigate precarious work long-term. For example, policies that would raise the minimum wage, protect the right to collectively bargain, and extend benefits to part-time and temporary workers, would decrease precarious work and increase workplace dignity, potentially helping them meet their basic needs (Allan & Kim, 2020; Blustein, 2019). Bills incorporating these policies are currently being considered in the U.S. congress, such as the Protecting the Right to Organize Act (PRO Act) and the Raise the Wage Act. Passing such bills into law would represent a critical step in protecting the dignity of work in the United States.

4.2. Limitations and future directions

A key limitation of the current study was the unexpected beginning of the COVID-19 pandemic and the subsequent economic crisis that occurred after the first wave of the study. This presented an opportunity to examine predictors of job loss but also removed people with highly precarious work, biasing the sample toward those with more stable employment. This could have depressed the effect size of path coefficients because of this variance restriction. While we still observed variation in the study variables among this subgroup, future research should replicate our findings during a less tumultuous period.

Our sample's representativeness was also a limitation. While the sample was representative in terms of gender, race, income, and other variables, participants were more highly educated than the population of working adults in the United States. While this is typical of online samples (Burnham et al., 2018), people with lower level of education are more likely to have precarious work (e.g., Blustein et al., 2020). Therefore, future studies may target different populations to replicate results, particularly those with lower levels of education. Even with a more representative sample, naturalistic longitudinal studies do not provide direct evidence of causation, although conducting experiments with our study variables would not be ethical. Regardless, it is possible that significant paths in the current study are confounded by unexamined third variables. Future studies may create interventions to decrease precarious work or increase workplace dignity and observe whether these lead to changes in need satisfaction in active versus control groups. Finally, our data was self-report, so common methods bias may have contaminated our findings. Although longitudinal data and testing reverse causation mitigates some of these concerns (Cooper et al., 2020), future studies may consider using multiple respondents (e.g., co-worker ratings of workplace dignity) or objective indicators of precarious work to corroborate results from self-report data.

4.3. Conclusion

The primary goal of the current study was to test whether greater precarious work predicted less need satisfaction over time and whether need satisfaction subsequently predicted greater workplace dignity. Contrary to our expectations, we found that greater precarious work only predicted less survival need satisfaction and, instead, greater workplace dignity predicted greater social contribution, autonomy, relatedness, and competence need fulfillment. This critical finding advances the PWT literature by identifying workplace dignity as a key work condition. Moving forward, research and practice should explore whether having workplace dignity is basic standard for acceptable employment.

CRedit authorship contribution statement

Blake A. Allan: Conceptualization, Methodology, Formal analysis, Investigation, Writing – original draft, Writing – review & editing, Visualization, Project administration, Funding acquisition. **David L. Blustein:** Conceptualization, Methodology, Writing – original draft, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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