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Appraisal of economic crisis, psychological distress, and work-unit absenteeism: A 1-1-2 Model

Abstract

The recent global economic crisis has generated renewed interest in questions regarding the potential impact of such macro-level events on employee well-being and organizational productivity. Drawing on the stress-retention model of absenteeism, this study tests a cross-level model (1-1-2) in which employees' negative appraisal of economic crisis is associated to work-unit absenteeism through their level of psychological distress. Data were collected after the 2008 global economic crisis in a large Italian company in the field of home furniture that comprises 1,160 employees nested in 49 units (facilities or branches). Results from a Multilevel Structural Equation Modeling (MSEM) support the hypothesized model: psychological distress mediates the relationship between appraisal of economic crisis and work-unit absenteeism rate during the subsequent year. These results have implications for managers and other workers with responsibilities for improving productivity and maintaining employees' well-being in turbulent times.

Keywords: economic crisis, economic stress, absenteeism, employee well-being, multilevel analysis.

Appraisal of economic crisis, psychological distress, and work-unit absenteeism:**A 1-1-2 Model**

Researchers have been interested in the connection between economic crisis and recession and individuals' health and well-being for decades. For example, Pierce (1967) conducted a time-series analysis in which economic fluctuation (i.e., changes in common stock prices) for the years 1919 to 1940 was positively related to the US suicide rate one year later. In a similar vein, Brenner (1967) used archival records to link economic status (i.e., workforce employed in manufacturing companies) with first admissions in mental hospitals from 1914 to 1967 in the New York State. Also, Catalano and Dooley conducted several epidemiological survey studies to assess the influence of economic variables on personal variables through cross-level analyses. They considered abrupt economic changes to be stressful life events that increase the number of adaptation-requiring behaviors and precipitate significant emotional disequilibrium in the short-term (i.e., one or two months after being exposed to economic changes), which, in turn, increase the incidence of illness and injury (including mental disorders: Catalano & Dooley, 1977; 1983; Dooley & Catalano, 1979; 1984). In other words, previous research has demonstrated that economic contractions can operate as a hindrance stressor (i.e., stressor appraised as potentially threatening or harmful to personal development and work-related accomplishment) at the macro-level. This assumption has received renewed attention given the devastating effects of the 2008 global economic crisis on individuals' health and well-being (e.g., Burgard & Kalousova, 2015; Curtis et al., 2019; Shoss & Penney, 2012; Van Hal, 2015).

In this line, our study is aimed at examining how the macro-economic context can induce the stress process and its associated proximal outcomes in the form of strain (i.e., psychological distress), which, in turn may trigger collective coping such as withdrawal from work (i.e., work-unit absenteeism). In other words, this study seeks to contribute to the

understanding of the implications of macro-economic events, such as downturns, for not only individuals but also for the organizations in which they work by specifying a cross-level 1-1-2 model in which individuals' perceptions of work-related threats of the economic crisis (i.e., negative appraisal of economic crisis or fear of economic crisis, including concerns about viability of their current organization and potential job loss) have an indirect effect on unit-level outcomes, namely absenteeism rate during the subsequent year in a specific unit or branch according to the human resources (HR) department's record, via individual reports of psychological distress (see Figure 1).

[Insert Figure 1 here]

Our study makes several contributions to the literature. First, it is one of the few studies to examine individual appraisal of work-related threats induced by economic crisis. Across the globe, recessions and economic crises are not uncommon occurrences. Adversely affected organizations respond by shutting down entirely, shutting down branches, or enacting changes that threaten jobs and result in survivor's guilt and demands to do more with less for employees that remain (Cascio, 2010). Thus, it is reasonable to expect that employees might react to economic crises with concerns over the future of their organization and their own employment. As potential drivers of well-being and organizational outcomes, these concerns are worthy of study.

Second, we build upon a perspective on workplace stress that is increasingly multilevel by examining the association between individual-level psychological distress associated with a negative appraisal of economic crisis and unit-level absence as a collective coping mechanism (Bliese & Jex, 2002; Croon & van Veldhoven, 2007; Croon, Van Veldhoven, Peccei, & Wood, 2015; Probst, 2010). Furthermore, absenteeism is measured at the unit level as "employee reactions do not take place in isolation; rather, employees' behavior affects those with whom they work and interact" (Shoss & Probst, 2012, p. 45).

Consistent with these tenets, work unit absenteeism reflects social and normative expectations specific to work groups (i.e., ‘absenteeism norms’ or ‘absence culture’ that underlie collective absence behaviors: Johns & Nicholson, 1982; Bamberger & Biron, 2007; Diestel, Wegge, & Schmidt, 2014; Xie & Johns, 2000). Thus, using an aggregated measure of absenteeism at team level may help both to (a) capture social context influences that can narrow the micro-macro research gap in organizational contexts (Bamberger, 2008); and (b) implement interventions to deal with absenteeism at higher level rather than at the individual level. In that sense, at the practical level, absenteeism rates at higher levels is the only objective available data that researchers and practitioners may gather from companies.

Finally, considering that this study connects economic crisis with absenteeism, we test our model in a context in which the consequences of the most recent economic crisis are still ongoing. This is the case of Italy, where the unemployment rate in 2018 was 10.6% according to Eurostat, the Statistical Office of the European Union, only surpassed by Greece and Spain. Furthermore, following the work of Addae, Johns, and Boies (2013), which concluded that cultural and organizational norms about the legitimacy of absences at work (i.e., to what extent absences are accepted/sanctioned in a given workplace or country) shape absenteeism behavior, providing empirical results out of the dominant research stream from US and North Europe helps advance current knowledge of the determinants of absence behavior at work. Moreover, considering that the absenteeism-related cost is about 2.5% of GDP in the 27 EU Member States according to the “Absence from work” report of the European Foundation for the Improvement of Living and Working Conditions (Eurofound, 2010), results from this study may provide new and important knowledge that could be used to help prevent absenteeism and, thereby, reduce this major cost.

In sum, given the scant attention that has been devoted to the emergent cross-level effect of individuals’ perceptions and well-being on unit-level outcomes in an economic

recession context, this study considers that economic crisis likely provides a salient context in which fear of economic crisis can exert a bottom-up influence on group-level absenteeism through individual psychological distress. Indeed, the prediction of such an upward cross-level influence is also concordant with the recent developments within multi-level theory, which advance that bottom-up effects of lower-level variables on higher-level outcomes are particularly “prominent in instances where higher-level phenomena have yet to fully crystallize or form” (Mathieu & Chen, 2011, p. 616). Empirical research has revealed that such instances refer to unstable and uncertain situations, such as organizational change (Nohe, Michaelis, Menges, Zhang, & Sonntag, 2013) or economic recessions. Consequently, under the stress-retention model of absenteeism (Podsakoff, LePine, & LePine, 2007; Schaubroeck, Cotton, & Jennings, 1989), we examine how individual psychological distress mediates the association between perceptions of work-related threats engendered by economic crisis and work unit-level absenteeism.

Economic Crisis and Psychological Distress

The cumulative work of Dooley and Catalano provides persuasive evidence that macro level economic processes influence individual level stress processes (e.g., Catalano & Dooley, 1983; Dooley & Catalano, 1984). As Hartley, Jacobson, Klandermans, and van Vuuren (1991) suggested, these broader contextual conditions provide signals that can instill fear regarding how the organization might fare in and respond to a financial downturn (i.e., hindrance stressors: Cavanaugh, Boswell, Roehling, & Boudreau, 2000; Podsakoff et al., 2007). Thus, according to this stressor-strain perspective, employees working in a company that is facing an economic crisis or recession may perceive such economic crisis as threatening or interfering with work achievement and associated with potential losses, which engenders strain in the form of psychological distress, anxiety, or depression (Tsai & Chan, 2011; Perrewé, Halbesleben, & Rosen, 2012).

These arguments are in line with previous findings from cross-sectional survey studies conducted after economic recessions. For example, Ünal-Karagüven (2009) indicated that self-reported losses of economic resources after Turkey's 2001 economic crisis were associated with increased anxiety and anger in a sample of 329 workers from different sectors. Also, after comparing the findings of two employee surveys from the Northern Ireland Civil Service conducted in 2005 and in 2009, Houdmont, Kerr, and Addley (2012) concluded that there was an increase in psychosocial hazard exposures, work-related stress prevalence and stress-related sickness absence associated with the 2008 financial crisis. Similarly, after the 2008 global economic crisis, Giorgi, Arcangeli, Mucci, and Cupelli (2015a) conducted a study between 2010 and 2011 in a sample of 1,236 employees among several private and public Italian organizations. They found that socioeconomic stressors (measured by fear of economic crisis and perceived non-employability) were associated with psychological distress via decreased social support and increased job demands. In a similar vein, Giorgi, Shoss, and León-Pérez (2015b) reported the results of a study carried out during 2013 in three companies from Tuscany (Italy) comprising 679 workers. They concluded that fear of economic crisis and perceived non-employability independently accounted for significant percentages of the incremental variance in mental health problems and job dissatisfaction over that explained by both more classically-studied stressors (job demands and lack of job control) and workplace bullying. More recently, Curtis et al. (2019) used information from government-sponsored national surveys in Scotland to reveal that one's perception and experience of recession in the regional economy generates psychological worry and stress that have the same negative impact on one's mental health as being unemployed.

In sum, following the stressor-strain perspective of work stress, we consider economic crisis as a hindrance stressor at the macro level (i.e., socioeconomic stressor) that can trigger the stress process and strain in workers (i.e., increased psychological distress).

H1: Negative appraisals of the economic crisis are positively associated with psychological distress.

Economic Crisis and Work-Unit Absenteeism via Psychological Distress

Research on absenteeism has usually differentiated between two types of absence behavior (e.g., Darr & Johns, 2008; Hausknecht, Hiller, & Vance, 2008): (a) non-voluntary absence or absenteeism beyond a person's control due to medically certified illness/sickness and family problems, and (b) voluntary absence or absenteeism within a person's control due to other reasons (i.e., motivationally based). This distinction between voluntary and non-voluntary absenteeism is relevant because there are two research approaches that argue for differences or similarities in explaining absence behavior.

On one hand, the first approach points out that the mechanism for voluntary and non-voluntary absences are completely different. In that sense, motivation and social influence processes may help to understand why people decide to voluntarily spend time away from work, whereas health and well-being factors may be associated to non-voluntary absenteeism (e.g., Hausknecht et al., 2008; Diestel et al., 2014; Dineen, Noe, Shaw, Duffy, & Wiethoff, 2007; Shoss & Penney, 2012; Virtanen, Vahtera, Nakari, & Pentti, 2004).

On the other hand, a second research approach has considered that both voluntary and non-voluntary absenteeism are interconnected and complementary. Researchers following this approach are more skeptical about establishing thresholds (e.g., long-term absence or being absent more than three consecutive days) to determine whether a sick leave may have medical determinants or voluntary reasons (e.g., Burton, Lee, & Holtom, 2002; Darr & Johns, 2008). Accordingly, this approach considers that both motivation and well-being factors at

the individual level and social influence processes at the group level explain withdrawal behavior in organizational contexts. In the present study, we followed this latter approach. Therefore, our measure of absence does not distinguish between these two types of absence (see method section).

Furthermore, drawing on the stress-retention model (Schaubroeck et al., 1989), recent meta-analytic studies (Darr & Johns, 2008; Podsakoff et al., 2007) have found that, at the individual level of analysis and regardless the type of absenteeism measured, hindrance stressors have an indirect positive effect on absence and other withdrawal behaviors through strain or psychological and physical symptoms such as anxiety, emotional exhaustion or depression (i.e., stressor-strain-absenteeism relationship). Furthermore, this stressor-strain-absenteeism relationship has also received empirical support at the team level. For example, results from a cross-sectional survey study, conducted in an Italian call center company comprising 5,406 operators nested in 186 teams, revealed that team burnout is associated to sickness absenteeism rates at the team level (Consiglio, Borgogni, Alessandri, & Schaufeli, 2013).

We integrate these micro- and macro-level perspectives and, in line with the stress-retention model, consider withdrawal behaviors as collective coping mechanisms that workers put in place to escape from stressful working conditions and “minimize the cumulative effects of work strain” (Darr & Johns 2008, p. 296). We acknowledge that the idea of missing work when companies are implementing downsizing strategies in turbulent times sounds counter-intuitive. In time of economic crisis, especially in the current European sovereign debt crisis, there is a lack of job opportunities that potentially reduces turnover and enhances the threat of job loss. Thus, employees may interpret absenteeism as a risky strategy during economic recessions because contextual cues indicate high unemployment rates and therefore a scarcity of potential job alternatives (Hausknecht et al., 2008).

However, according to the growing literature on the collective nature of coping (e.g., Lämsäsalmi, Peiró, & Kivimäki, 2000; Rodríguez, Kozusznik, Peiró, & Tordera, 2019; Torkelson, Muhonen, & Peiró, 2007), collective coping emerges through interaction processes that result in shared or collective actions to deal with a noxious situation that affects a wide range of workers in the organization. In other words, as the potential negative consequences of economic crisis can affect most of the employees working in the same organization, this stressor becomes a collective threat that requires coping strategies involving the group (see Rodríguez et al., 2019).

Moreover, previous research has documented that absenteeism is susceptible of social influence (e.g., Addae et al., 2013; Bamberger & Biron, 2007; Biron & Bamberger, 2012; Dello Russo, Miraglia, Borgogni, & Johns, 2012; Diestel, Wegge, & Schmidt, 2014). In other words: “individuals often look to social norms to gain an accurate understanding of and effectively respond to social situations, especially during times of uncertainty” (Cialdini & Goldstein, 2004, p. 597). Thus, consistent with social learning theory (Bandura, 1997), when someone initially engages in absence to get rid of the stress s/he is suffering and such behavior is rewarded (or at least not punished), other team mates may repeat such absence behavior as workers from the same unit may share both perceptions about the consequences of economic crisis and absenteeism norms, leading them to behave in a congruent way with the information received from their social environment (Bamberger & Biron, 2007; Biron & Bamberger, 2012; Dello Russo et al., 2012). Consequently, according to this behavioral contagion process, workers in the same unit may use absenteeism as a collective coping mechanism to alleviate the negative feelings that the uncontrollable economic stressor produces (i.e., fear of economic crisis and psychological distress). In a similar vein, research about traumatic life events have reported that collective avoidance is quite usual when the

group tries to ignore what has happened as a way of disconnecting or detaching from the stressor and its associated negative emotions (Pennebaker & Harber, 1993).

In sum, we hypothesize that negative appraisal of economic crisis is associated to psychological distress, which in turn is related to collective absence behavior.

H2: Negative appraisals of the economic crisis are positively associated with unit-level absenteeism via psychological distress (at the individual level).

Method

Procedure and Participants

This study was conducted between 2013 and 2014 in one large Italian company in the field of home furniture. Although a single organization is far from being representative of the Italian workforce, we aimed at controlling potential confounds that can affect absenteeism behaviors at unit-level such as organizational culture and norms associated with organizational size and sector (for a meta-analysis, see Berry, Lelchook, & Clark, 2012). All workers employed in this company were invited to participate in the study (N = 2,500). The final respondents were 1,190 employees (response rate = 47.6%) nested in 49 units (facilities or branches) across Italy; each unit was composed in average of 21 employees ($SD = 12.8$) performing different roles such as middle managers, sellers, professional-level staff with some administrative support roles and storekeepers.

Following the American Psychological Association's (APA) Ethical Principles of Psychologists and Code of Conduct, participants were informed about the aim of the study and requisites for participation, and all participants gave their written informed consent. The survey was administered through paper-and-pencil questionnaires on site by the staff of the organizations and by the research team. It was agreed with the organization that a reduced

amount of demographic data would be requested in order to help maintain anonymity (i.e., gender, age, job position, job tenure, and contract type). All surveys were conducted in Italian.

The sample was balanced as far as gender is concerned (46.1% male, 53.9% female). Workers were on average relatively young: 9.2% 30 years old or less, 33% from 31 to 35 years old, 34.4% from 36 to 40 years old, and only 23.4% were over 40. Regarding job position, the sample included 25.1% of managers and middle managers and 74.9% of white collar and blue collar employees. Regarding job tenure, 28.2% of the participants had worked from 0 to 3 years, 27% of participants had worked from 4 to 6 years, 26.2% of the participants had worked from 7 to 9 years, and 18.6% of participants 10 years or more. Finally, the majority of employees had a permanent position (93% vs. 7% temporary position) and worked full time (59.8% vs. 40.2% part time).

Measures

After collecting some socio-demographic variables, participants completed the scales on economic stress and psychological distress:

Appraisal of Economic Crisis. This variable was measured using the dimension ‘Fear of economic crisis’ from the Italian Stress Questionnaire (SQ) developed by Giorgi, Arcangeli, and Cupelli (2013). Fear of economic crisis refers to the extent to which employees perceive that the organization is suffering from economic crisis (e.g., *“I am scared that my organization, because of the economic crisis, is subjected to downsizing”*; see Appendix in Giorgi et al., 2015b for an English version of this scale). This dimension consists of 5 items, answered on a 5-point Likert-scale (from 1: “strongly disagree” to 5: “strongly agree”). Higher mean scores reflect more negative appraisal of economic crisis.

Psychological distress. It was measured with the General Health Questionnaire (GHQ-28: Goldberg & Hillier, 1979). The scale asks whether the respondent has experienced a particular symptom or behavior related to general psychological health recently (e.g., “*Considering the last few weeks, Have you recently.... Felt constantly under strain?*”). Each item is rated on a 4-point Likert-type scale (0-1-2-3). A higher score indicates a greater degree of psychological distress.

Work-unit Absenteeism. This measure was provided by the organization at the unit-level. Our measure of absenteeism did not differentiate between short- and long-term absences (or voluntary vs. non-voluntary absenteeism) as it refers to the percentage of working hours out of work (absence hours) regarding the total of scheduled working hours in a specific unit during a certain time period, without differentiating the nature or reason for being absent. For example, if a team is composed by 10 workers and each has a 40-hour working schedule per week, the percentage of being absent 6 hours considering all workers in such team during such week is 1.5% (6 out 400 scheduled working hours in such week: 10 workers x 40 hours/each). In our case, work-unit absenteeism rate from HR records referred to 12 months period after we collected the self-reported measures.

Control variables. Age, organizational tenure and job position were included as control variables because of their potential association with absenteeism (see Bouville, Dello Russo, & Truxillo, 2018; Magee, Caputi, & Lee, 2016).

Analytical strategy

Multilevel structural equation modeling (MSEM) was used as analytical strategy to take into account (1) the multilevel nature of our study and (2) the need to model bottom-up relationships in which individual-level factors (fear of economic crisis and psychological distress) contribute to collective phenomena (work-unit absenteeism rate) (Preacher, Zyphur, & Zhang, 2010). MSEM models decompose a variable’s variance into components at the

between and within level (Lüdtke et al., 2008). Accordingly, the relationships between such components can be modeled at each level independently through the specification of measurement and structural models (Lüdtke et al., 2008; Muthén & Asparouhov, 2009). Through variance decomposition, MSEM offers the advantage of preventing possible problems of conflated within- and between-level effects, as well as of providing more accurate estimates of indirect relationships than traditional multilevel approaches (Preacher et al., 2010; Zhang, Zyphur, & Preacher, 2009).

To justify the treatment of appraisal of economic crisis and psychological distress as individual-level constructs, it was necessary to calculate intraclass correlation coefficients (ICC[1] and ICC[2]). ICC(1) estimates the portion of variance between individuals that could be accounted for by differences in group membership, while ICC(2) estimates the reliability of the aggregate scores of the variable at the group level (James, 1982). The ICC(1) value was .11 for appraisal of economic crisis and .05 for psychological distress. The ICC(2) value was .75 for appraisal of economic crisis and .60 for psychological distress. Overall, these values, except the ICC(2) for appraisal of economic crisis, were below the recommended benchmarks of 0.12 for ICC(1), and of 0.70 for ICC(2) (Bliese, 2000; Schneider, White, & Paul, 1998). According to James (1982), while ICC(2) helps to understand differences among units by assessing the reliability of group means, the ICC(1) is a more suitable criterion for judging the extent to which data aggregation across respondents is necessary. Thus, based on our results and on the discussed methodological recommendations, we conclude that the use of appraisal of economic crisis and psychological distress as individual-level constructs is justifiable.

All analyses were conducted using Mplus, version 7.11 (Muthén & Muthén, 1998-2013). First, a confirmatory factor analysis (CFA) with maximum likelihood estimation was conducted to examine the discriminant validity of fear of economic crisis and psychological

distress. Second, multilevel measurement and structural models were tested with the weighted least-squares method (WLSM). This estimation method is preferable when the outcome variable included in the multilevel models is non-normally distributed (Finney & DiStefano, 2006), as in the case of our study. The Shapiro-Wilk test (Shapiro & Wilk, 1965) indeed revealed a non-normal distribution for work-unit absenteeism ($W = .95, p < .01$). Also, before testing the measurement and structural models, we averaged items into dimensions for psychological distress, and treated the dimensions as separate indicators of their corresponding latent construct in our MSEM analyses.

Then, we used both absolute and incremental fit indexes to evaluate the model fit. Absolute fit indexes evaluate how well the *a priori* model reproduces the sample data. In our study, we focused on two absolute fit indexes: the standardized root mean square residual (SRMR) (Schreiber, Nora, Stage, Barlow, & King, 2006), and the root-mean-square error of approximation (RMSEA) (Browne & Cudeck, 1993). Incremental fit indexes measure the proportionate amount of improvement in fit, when a target model is compared with a more restricted, nested baseline model (Schreiber et al., 2006). We considered the comparative fit index (CFI) (Schreiber et al., 2006). Furthermore, we used a scaled chi-square difference test (Satorra, 2000) to compare multilevel models because the regular chi-square difference test cannot be applied in models using the WLSM estimator (Muthén & Muthén, 1998-2013).

Results

Confirmatory factor analysis and assessment of common method variance

Prior to testing hypotheses, we examined the distinctiveness of negative appraisal of economic crisis and psychological distress using CFA. This allowed comparing the hypothesized two-factor model with a single-factor model. Results showed that the two-factor model yielded an acceptable fit to the data ($\chi^2 [19] = 223.66, CFI = .93, RMSEA = .09, SRMR = .05$), which was also significantly better than that of the single-factor model ($\chi^2 [20]$

= 1325.71, CFI = .56, RMSEA = .23, SRMR = .14; $\Delta\chi^2 [1] = 1102.05$, $p < .01$). These findings hence provided evidence of the discriminant validity of negative appraisal of economic crisis and psychological distress.

Moreover, since the independent variable (appraisal of economic crisis) and the mediator (psychological distress) were collected at the same time with self-report scales, common method bias problems may arise and inflate our study results. Following Podsakoff, MacKenzie and Podsakoff's (2012) statistical recommendations, we used the unmeasured latent method factor approach to control for the effects of common method variance, prior to testing hypotheses. This specific approach was chosen because it does not require specifying the source of method bias, and it controls for any systematic variance among the items that is independent of the covariance because of the constructs of interest (Podsakoff et al., 2012). Indeed, this technique is recommended when the specific source of method bias is unknown or cannot be measured (Williams, Cote, & Buckley, 1989), as in the present research.

Accordingly, we added a common method factor to the two-factor model including appraisal of economic crisis and psychological distress, to assess the potential increase in model fit that would be obtained from accounting for the unmeasured method factor. The model provided a better fit to the data than the same model without the method factor ($\chi^2 [11] = 43.57$, CFI = .99; RMSEA = .05; SRMR = .02, $\Delta\chi^2 (8) = 43.57$, $p < .01$). The method factor accounted for 20% of total variance, which is below the average portion of variance (26%) reported in self-report studies (Podsakoff et al., 2012; Williams et al., 1989). Moreover, the factor loadings in this model remained significant and highly similar to the ones of the two-factor model without the method factor¹. These results therefore suggest that common method bias does not pose a serious threat in our study.

Hypothesis testing

Table 1 displays descriptive statistics, correlations and reliability coefficients for the study variables.

[Insert Table 1 here]

First, we conducted a multilevel confirmatory factor analysis (MCFA) to test a measurement model for the two study constructs that had within and between variance: appraisal of economic crisis and psychological distress. The model fit the data well: $\chi^2(38) = 240.94$, CFI = .93, RMSEA = .07, SRMR = .06. Next, the variable with only between-group variance (work-unit absenteeism) was added to the between-level model and the hypothesized multilevel structural model was specified. This model, in which individual appraisal of economic crisis is indirectly related to work-unit absenteeism through psychological distress, yielded a good fit: $\chi^2(66) = 298.24$, CFI = .92, RMSEA = .05, SRMR = .06. Then, we examined the direct and indirect relationships in the structural model. As shown in Figure 2, negative appraisal of economic crisis was positively associated with psychological distress ($\beta = .30$, $p < .01$), which in turn was positively linked to work-unit absenteeism ($\beta = .60$, $p < .01$). The indirect relationship between appraisal of economic crisis and work-unit absenteeism through psychological distress was quantified using the product-of-coefficients method, which consists of computing the product of the coefficient of the independent variable-mediator path by the coefficient of the mediator-dependent variable path (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). The confidence intervals to determine the significance of this indirect relationship were provided by Mplus using the delta method, which is a recommended analytical approach to derive the approximate sampling distribution of an asymptotically normal estimator (Raykov & Marcoulides, 2004).

In this regard, our results revealed that negative appraisal of economic crisis had a positive and significant indirect relationship with work-unit absenteeism through psychological distress (product of coefficients = .18, $p < .05$, 95% CI = .10, 1.98). Moreover,

in order to assess full versus partial mediation, we tested an alternative model that included an additional direct path from negative appraisal of economic crisis to work-unit absenteeism. Results indicated that this model exhibited a slightly better fit to the data than the hypothesized model ($\chi^2(65) = 294.19$; CFI = .92; RMSEA = .05; SRMR = .06), as indicated by a significant scaled chi-square difference test ($\Delta\chi^2[1] = 4.25$, $p < .01$). However, the additional direct link between negative appraisal of economic crisis and work-unit absenteeism was not statistically significant in this model ($\beta = .31$, *ns*). We therefore retained the hypothesized full mediation model as the most parsimonious model. Overall, hence these results supported both Hypothesis 1 and Hypothesis 2.

[Insert Figure 2 here]

Discussion

In times of economic turbulence, the actively working population is likely to experience negative consequences of economic stress. However, previous studies have neglected the multilevel nature of workplace stress experiences and their associated consequences on both individuals' health and well-being and organizational productivity-related outcomes. In response, this study examines a bottom-up cross-level model in which absenteeism at the unit level due to the fear of the potential effects of the crisis in the workplace is mediated by employee well-being (i.e., psychological distress).

As expected, our results revealed an indirect effect of individuals' work-related threat appraisal of the economic crisis (i.e., fear of economic crisis) on unit-level absence according to the HR department's record through individual-level psychological distress. These findings are in line with recent studies that have shown, at the individual level of analysis, that being afraid of economic crisis and its potential consequences (e.g., job loss) is associated to diminished psychological well-being and deteriorated health (Giorgi et al., 2015a, 2015b). Thus, our results highlight the role of economic crisis as a stressor in organizational settings.

Also, as proposed in the stress-retention model of absenteeism (Schaubroeck et al., 1989), several studies have shown that, under stressors that are difficult to modify or uncontrollable (like economic crisis and its potential negative consequences), workers try to minimize exposure to stressors by being absent and having time to recover (i.e., stressor-strain-absenteeism relationship: Darr & Johns, 2008; Podsakoff et al., 2007). In this regard, our study contributes to the literature on absenteeism since, for the first time, it identifies negative appraisal of the economic crisis and psychological distress as key determinants of increased work unit absenteeism, and highlights the role of collective absence behaviors as coping strategies. These findings are in line with the communal coping framework (Lyons, Mickelson, Sullivan, & Coyne, 1998) and the emergent literature on collective coping (e.g., Lämsä et al., 2000; Rodríguez et al., 2019; Torkelson et al., 2007), suggesting that groups can share coping strategies to deal with the same stressful situation they are experiencing. Importantly, these appraisals and coping strategies may adjust in response to group members' behaviors and experiences associated with the context and conditions of work; and thereby create emergent group-level effects, such as work-unit absenteeism (Johns, 1994; Johns & Nicholson, 1982). Moreover, these collective attempts to deal with work stressors in order to remove them, reinterpret them, or relieve their associated negative feelings, can be more effective than individual or co-active coping strategies (Rodríguez et al., 2019).

A third contribution of this study is the contextualization of the findings in a context of economic crisis in Italy. In that sense, it is difficult to believe that employees who (a) are fearful of the economic crisis and their job security, and (b) do not believe they could secure employment elsewhere would engage in voluntary absenteeism that could result in their termination. However, previous studies have shown that workers usually engage in absenteeism when they cannot change their working conditions or move to another job, particularly when there are few available job alternatives in their labor market as in the case

of the economic crisis and its increased unemployment rate (see Swider, Boswell, & Zimmerman, 2011). Thus, as our results suggest, an interesting future research avenue might be to explore whether absence behaviors are legitimated in a context of economic crisis (see Addae et al., 2013).

Strengths, Limitations, and Future Research Directions

Consequently, these findings may help to overcome two methodological limitations of previous research: (a) the lack of bottom-up multilevel designs, and (b) the lack of multiple sources of information over time (self-report and organizational indicators). We are aware of only two studies (Nohe et al., 2013; Zhang, Waldman, & Wang, 2012) that empirically tested bottom-up multi-level relationships. These studies showed that individual-level commitment to change was positively related to team-level performance. We expand this multi-level research stream by modeling bottom-up relationships in the context of absenteeism. Accordingly, our investigation contributes importantly to understanding how individual team members and the team relate to each other (Kark & Shamir, 2002; Wang & Howell, 2012), which is valuable for future research addressing the relationships between lower-level and higher-level units (Bamberger, 2008; Mathieu & Chen, 2011). This study thus answers calls “to generate and test bottom-up theories that truly break paradigmatic boundaries” (Bamberger, 2008, p. 842) and suggest important avenues for future research that address its current limitations.

For example, although potential effects of organizational culture are controlled in this study by using multi-source data from 49 branches or facilities of the same organization, future studies should test the research predictions in different samples, sectors and countries that might have different absenteeism norms (i.e., absence culture). Future research might also examine additional pathways through which negative appraisal of the economic environment impacts group-level outcomes. For instance, because we lack absenteeism

information at the individual level, future research can examine whether stress symptoms associated to economic crisis (or other uncontrollable stressors) may lead to collective absence behavior through individual absenteeism. In other words, in line with stress-retention model, the psychological distress symptoms elicited by a negative appraisal of economic crisis may lead individuals to put in place coping mechanisms directed towards avoiding the stressor (i.e., individual absence behavior) and reducing the negative emotion they experience (i.e., “attend to strain-related health complaints”: see Biron & Bamberger, 2012, p. 902). These avoiding or absenteeism coping behaviors at the individual level may be reinforced by the social context in which employees are embedded and in which they may seek for cues about how to interpret and deal with economic crisis and its associated negative emotions. As Mason and Griffin (2003, p. 668) explain: “absenteeism is likely to be subject to social influence, dictating how much absence is acceptable, and on what occasions absence is justified.” Hence, as individual group members experience and respond to diminished well-being resulting from fear of economic crisis, their reactions shape others’ expectations and, thereby, lead to the emergence of shared norms and expectations for absence behavior at the group level, resulting in increased work unit absenteeism (i.e., collective absence behavior).

Similarly, we decided to define fear of economic crisis as an individual’s appraisal of potential negative effects of the economic crisis in one’s personal conditions (e.g., job loss, decreased income). Indeed, our results indicate that there are no statistical reasons for aggregating appraisal of economic crisis and psychological distress at team level. However, other studies should explore (a) whether shared perceptions of stress (i.e., collective perceived stress) or their dispersion in the group may account for variance of collective absenteeism; and (b) whether collective absenteeism is the result of emotional contagion processes that widespread psychological distress among team members (Consiglio et al., 2013; Engert, Plessow, Miller, Kirschbaum, & Singer, 2014; Lämsä et al., 2000). In that

sense, future research should overcome this key limitation of this study and introduce direct measures of the constructs that may explain the process or connection between individual distress and work-unit absenteeism as a collective coping mechanism. To this point, until future research can establish the exact mechanism linking individual psychological distress to unit-level absenteeism, any theoretical account of this relationship remains tentative.

In addition, in this study our measure of absence does not distinguish between both voluntary and non-voluntary absenteeism in order to utilize employee records and reduce biases associated to the common method variance. However, future studies should also consider differentiating both types of absenteeism measures and test the extent to which the model described here applies to them or affect their boundary conditions. Moreover, as our sample does not allow us to distinguish between absenteeism data of leaders (managers and middle managers) and their subordinates, whether absenteeism differs depending on the job category may be an interesting question for future research.

Finally, further studies should use longitudinal designs with several data collection times and introduce measures of social influence to test potential vicious cycles in which the stress and its associated negative emotions induced by the economic crisis appraisal foster further negative consequences of economic crisis (see Côté, 2005; Hareli & Rafaeli, 2008). Moreover, qualitative data and retrospective information may complement quantitative data and offer more comprehensive explanations about the multilevel linkages of stress and absenteeism.

Practical Implications

Despite these design limitations, our findings have interesting implications for managerial practice. First, our findings indicate that economic crisis triggers uncertainty and negative emotions such as anxiety, frustration and tension; which may stimulate collective coping in the form of absenteeism. Thus, managers should seek internal support and

consensus with key people in the organization, including teams' leaders, about how the crisis can affect the organization and how to confront it (Bies, 2013). Then, managers should communicate adequately all relevant facts and tell what course of action the organization is going to take ('what is going to happen'), trying to involve workers in finding solutions and inducing a vision of the situation as a challenge (i.e., promoting a more "positive" appraisal of the stressor and available coping resources) that can help changing counterproductive established procedures for others more adaptive and sustainable. Indeed, previous studies have shown that uncertainty mediates stress responses (de Beker et al., 2016; Mantler, Matejcek, Matheson, & Anisman, 2005); therefore, decreasing the uncertainty during economic crisis may also help reduce strain. Second, as leaders are in a privileged position to influence other group members, they can play an important role in managing appraisal of economic stress and group absenteeism. Indeed, leaders can promote self-efficacy beliefs as a team (i.e., collective self-efficacy) and encourage collective active coping mechanisms in stressful situations (vs. collective avoiding coping strategies associated to absence behaviors). As Rodriguez et al. (2019) noticed "organizational coping strategies that involve groups of workers or entire organizations can be especially effective", and this type of collective coping can be either enacted formally or informally "through leadership and interaction processes that result in collective actions by the members".

Conclusion

In summary, the research reported in this article indicates that, in an environment of economic crisis (stressful event or stressor), an individual's appraisal of fear of economic crisis and its potential consequences (perceived stress) elicits negative psychological states (sustained stress response that ends in strain) that result in shared absenteeism behaviors (collective coping mechanism) in the unit or branch. Although additional research is needed, our findings provide preliminary support for a bottom-up cross-level model that extends our

knowledge about the implications of socio-economic factors on both employees' health and well-being and workplace absenteeism at the unit level of analysis, which also provides relevant insights for future research and practice.

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Footnote

¹Results are available upon requests.