Organizational virtuousness is defined as collective positive attributes and behaviors supported by and characteristic of an organization that promote hedonic well-being, eudaimonic well-being, and optimal performance. The underlying mechanisms through which organizational virtuousness operate remain largely unknown. Drawing from the broaden-and-build theory, organizational virtuousness is proposed to broaden employees’ attention and cognition toward positive stimuli and events, and over time, build psychological resources for managing future endeavors. Building resources in turn promotes well-being and organizational commitment. A 3-wave prospective study (baseline, T1; 3 months, T2; and 1 year, T3) was conducted with a sample of 444 primary and secondary schoolteachers in Hong Kong. Organizational virtuousness, cognitive reappraisal, psychological capital (PsyCap), life satisfaction, flourishing, affective commitment, and contextual performance were assessed. The results showed that cognitive reappraisal and PsyCap served as sequential mediators of the relationships between three components of organizational virtuousness and all four indicators of well-being and organizational commitment. Collective gratitude, kindness, and forgiveness at T1 had significant indirect effects through cognitive reappraisal at T2 and then PsyCap at T3 on satisfaction with life, state of flourishing, emotional attachment to the organization, and engagement in extra-role activities that contribute to the organization’s efficacy. This study is among the first to provide prospective data on the effects of organizational virtuousness. The results lead to a discussion of how organizations might shape a grateful, kind, and forgiving work culture using virtue-based management to achieve optimal individual and organizational functioning.

Keywords organizational virtuousness · cognitive reappraisal · well-being · flourishing · organizational commitment
Introduction

In recent years, corporates and small and medium companies have begun to recognize the importance of protecting employees’ mental health through creating a virtuous working environment, such as by fostering appreciation, gratitude, and encouragement, to enhance productivity and competitiveness, and establish a positive organizational image (Occupational Safety and Health Council, 2016). In line with the positive workplace initiatives, this study aims to investigate the effects of virtuous practices in organizations on employee outcomes, and identify the underlying mechanisms of this process. Virtues refer to intellectual, moral, and social excel-

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lences demonstrated through character traits and intentional behaviors involving the pursuit of human goodness and an optimal state of functioning as a valued end in itself (Bright & Fry, 2013). Modern research on virtues has been accelerated by the positive social science movement (Bright et al., 2014), which puts emphasis on the identification of positive behaviors that are indicative of virtuousness as well as their associated factors. The fields of positive psychology (PP) in general (Seligman & Csikszentmihalyi, 2000), and positive organizational behavior (POB) in particular (Luthans, 2002), have expanded scientific understanding of positive traits and virtues, positive emotions, and positive institutions that enable people to flourish and thrive. These lines of work have generally been driven by an individual level of investigation, such as the development of Values in Action classification of character strengths and virtues to consolidate the core capacities that make the good life possible (Peterson & Seligman, 2004).

Virtue theorists began to challenge the validity of studying virtues without considering the social context and interpersonal dynamics (Bright et al., 2014). Virtues are not only demonstrated by individuals, but are also cultivated by and passed on to other members within the social system. For example, expressing and receiving gratitude independently and simultaneously promote relationship satisfaction for both partners in a close relationship (Chang, Dwyer, & Algoe, 2021); acts of kindness promote giver and receiver well-being and inspire receivers to pay their acts of kindness forward (Chancellor et al., 2018); and employees engage in forgiveness following client victimization only in harmonious workgroups (Booth et al., 2018). Indeed, a number of prominent theories in organizational behavior emphasize on the person-environment interaction for understanding human behavior in the workplace. The social cognitive theory (Wood & Bandura, 1989) proposes that psychosocial functioning is explained by triadic reciprocal causation, whereby the environmental context and an individual’s cognition, behavior, and other personal factors mutually influence each other as interacting determinants. Due to bidirectional influences, individuals are both products and producers of their environment. The social exchange theory (Cropanzano et al., 2017) states that social interactions can be understood in the form of sequential transactions, whereby an actor may initiate a good deed to a target individual/group and the target reciprocates this positive treatment in response to establish and maintain a high quality social exchange relationship. Research has highlighted the important role of organizational culture (e.g., collegial support, reciprocity, fairness, civility, and morality) by showing its impact on desirable work outcomes, such as prosocial behavior, organizational citizenship behavior, organiza-
tional commitment, and work performance (Au & Leung, 2016; Babalola et al., 2022; Baker & Bulkley, 2014; Porath et al., 2015; Wei Tian et al., 2016. Ng and colleagues 2021), for example, found that constructive voice (i.e., well-intended suggestions to promote positive changes at work) can spread in the organization through co-worker witnesses.

Since the work culture is fundamental to employees’ and organization’s functioning, what might be the benefits when virtuousness is demonstrated at a collective level and what are the psychosocial mechanisms that underlie this process? Guided by social and behavioral theories in general, and drawing from the broaden-and-build theory (Fredrickson, 2001) in particular, the present study aims to address these questions by examining the associations between organizational virtuousness (gratitude, kindness, caring, and forgiveness), cognitive reappraisal, psychological capital, well-being, and organizational commitment.

Organizational Virtuousness and Employee Outcomes

The collective-level properties of virtuousness have received growing attention in the field of Positive Organizational Scholarship (POS), which involves empirically examining the best qualities of an organization that can be leveraged and enhanced to promote individual and collective flourishing in the workplace (Caza, 2016). Organizational virtuousness is defined as collective positive attributes and behaviors supported by and characteristic of an organization that promote hedonic well-being, eudaimonic well-being, and optimal performance (Meyer, 2018). This conceptualization adopts the synergy hypothesis, representing the idea that “the collective has some kind of multiplicative, amplifying, or synergistic effect such that the overall virtuousness comes to be greater than the sum of the virtuousness of individual members” (Bright et al., 2014, p. 455). It highlights the role of the social context and group dynamics (Cropanzano et al., 2017; Wood & Bandura, 1989), whereby members of an organization build upon each other’s strengths and compel each other to engage in virtuous acts. Cameron et al., (2011) proposed a non-exhaustive list of the dimensions of organizational virtuousness, including gratitude, kindness, caring, forgiveness, meaning, and inspiration. It has received empirical support for appropriateness in evaluating virtuousness at the organizational level and relevance to predict organizational effectiveness.

The present study specifically examines the effects of collective gratitude, kindness, caring, and forgiveness because their individual-based counterparts have received substantial empirical support in associating with subjective well-being, flourishing, and job performance (Harzer & Ruch, 2014; Peterson et al., 2007; Wagner et al., 2019). Gratitude refers to the feeling and genuine expression of appreciation and respect to recognize each other’s contributions (Cameron et al., 2011). Kindness refers to generosity, compassion, and genuine concern for those who are struggling. Caring refers to a reciprocal contribution and acceptance of affection, care, and protection in valued relationships. Forgiveness refers to understanding and showing mercy to each other’s wrongdoing, and letting go of negative emotions. These dimensions describe the collective practices of employees within an organiza-
tion rather than individual attributes or behaviors (Cameron et al., 2011). Although gratitude, kindness, caring, and forgiveness are conceptually and psychometrically sound as discrete dimensions of organizational virtuousness, they were often construed in combination as an aggregate of virtues (Rego et al., 2010).

Existing research has primarily examined the associations between organizational virtuousness and job performance indicators. Cross-sectional studies showed that organizational virtuousness is positively associated with task performance (Magnier-Watanabe et al., 2017), work intensity (Tsachouridi & Nikandrou, 2020), work engagement (Singh et al., 2018), and organizational citizenship behaviors (Rego et al., 2010). Several research gaps warrant further investigation: (1) prior research investigated the overall effects of organizational virtuousness while the specific roles of each dimension remain largely unknown (Cameron et al., 2011); (2) although POS adopts the eudaimonic assumption that organizational virtuousness leads to extraordinary functioning, scant research has extended beyond examining ordinary performance outcomes (Meyer, 2018); and (3) a majority of the studies adopted a cross-sectional approach to test models that make directional inferences (Maxwell & Cole, 2007).

The Affective Process of Organizational Virtuousness

There is a need to better understand the underlying mechanisms through which the collective-level properties of virtuousness lead to desirable outcomes. Little empirical attention has been paid to this issue. A few recent studies found that affective well-being is a significant mediator linking organizational virtuousness to affective commitment, work engagement, job performance, and organizational citizenship behaviors (Ahmed et al., 2018; Magnier-Watanabe et al., 2017; Singh et al., 2018). Employees who perceive themselves to be working in a virtuous organization are likely to experience positive emotions (e.g., happy, joyful, pleasant, and contented), and as a result are likely to be committed and engaged at work (Rego et al., 2011; Sharma & Goyal, 2021). The researchers explained that organizational virtuousness cultivates a sense of flow, engagement, and well-being among employees because of positive emotions from positive social interactions (Rego et al., 2010). However, we argue that this is circular reasoning (i.e., a leads to b because of a) because positive emotions characterize the virtues. Put differently, being virtuous involves the genuine experience and expression of positive emotions. Gratitude involves the feeling of appreciation, kindness involves the feeling of compassion, caring involves the feeling of affection, and forgiveness involves letting go of the feeling of resentment (Peterson & Seligman, 2004). One cannot be virtuous without authentic positive emotions; coherence between one’s emotions, values, beliefs, and action is needed (Salmela, 2005). Therefore, the mechanism of organizational virtuousness was found insofar as positive experience was concerned, but how the affective process leads to desirable outcomes has yet to be explored.

Since working in a virtuous organization is a positive emotional experience, we draw from the broaden-and-build theory (BBT) of positive emotions (Fredrickson, 2001) to identify the potential pathways of organizational virtuousness to indi-
individual and collective flourishing in the workplace. According to the BBT, positive emotional experiences *broaden* people’s thought-action repertoires and *build* their personal resources. Thought-action repertoires refer to attention, cognition, and subsequent behavioral responses to affective experiences (Fredrickson & Brani-gan, 2005). Whereas classic deficit models (e.g., Lazarus & Folkman 1984) claim that negative emotional experiences (e.g., work stress) narrow a person’s cognitive appraisal of the stimuli, leading to a restricted set of reactions (e.g., fight or flight) and triggering a downward spiral toward ill health (e.g., burnout), the BBT (Fredrickson, 2001) proposes that positive emotional experiences (e.g., organizational virtuousness) broaden a person’s patterns of thought that are flexible, creative, integrative, and efficient, leading to a broader range of behavioral options (e.g., ethical or prosocial behavior) and producing an upward spiral toward enhanced well-being (e.g., life satisfaction). Studies have investigated how a current emotional state may affect attention and cognition toward emotionally salient information. For example, happy people show increased attention toward positive information (Noguchi et al., 2006) and recognition of happy facial expressions (Schmid & Schmid Mast, 2010). They are also more likely to report frequent and intense daily happy experiences (Otake et al., 2006), recall positive life events, and interpret ambiguous situations in a positive way (Seidlitz & Diener, 1993). The tendency to attend to, think about, and focus on positive information to modulate emotional responses and enhance cognitive performance is referred to as cognitive reappraisal (Ahn et al., 2015; Gross & John, 2003). In line with the BBT on broadened thinking, employees working in virtuous organizations are expected to develop a habitual mode of cognitive reappraisal. Adaptively changing one’s attention and thought patterns involves cognitive strategies that are flexible and creative, such as focusing on a positive aspect of the experience or broadening the perspective to see the bigger picture (Pavani et al., 2016; Shiota & Levenson, 2012). For example, collective gratitude enables employees to expand their attention to the strengths and merits of one another. Collective forgiveness encourages employees to broaden their scope of cognition to think about the greater good of the team. Based on the theoretical assertions of the BBT and empirical evidence from the emotion regulation literature, organizational virtuousness is expected to promote cognitive reappraisal among employees.

Personal resources are another mechanism of positive emotional experiences. According to the BBT, broadened thinking in turn engenders indirect and distal benefits because broadening builds personal resources for investing in opportunities, overcoming challenges, and coping with adversities (Fredrickson, 2001). While personal resources can range from psychological, social, and intellectual to physical, the BBT emphasizes the role of psychological resources in the affective process. Psychological capital (PsyCap) is one of the most potent personal resources that promotes a wide range of adaptive employee outcomes (Luthans & Youssef-Morgan, 2017). People who possess a high level of PsyCap are marked by perseverance toward goals and flexibility to redirect pathways to success (hope), confidence to tackle and overcome challenges with necessary effort (efficacy), positive adaptation to setbacks and endurance of hardship (resilience), and positive expectations for favorable and desirable outcomes (optimism). Studies showed that PsyCap is positively associated with work engagement and job performance (Alessandri et al., 2018), rational problem
solving (Ho & Chan, 2022c), and job satisfaction and affective well-being (Ho & Chan, 2022b). PsyCap mediates the relationship between organizational support and flourishing (Ho & Chan, 2022a) and is an important resilience factor during adversities, such as the COVID-19 pandemic (Ho, Chui, & Chan, 2022d). The effects of PsyCap was found on a daily basis, as evidenced by daily fluctuations of positive functioning (Culbertson et al., 2010). Since the BBT postulates that broadened thinking fuels psychological resiliency, which functions as reserves for managing future threats (Fredrickson, 2001), cognitive reappraisal is expected to promote PsyCap. Employees who have a tendency to appraise situations in a positive light should become more hopeful, efficacious, resilient, and optimistic.

Applying the BBT to organizational settings, it proposes that organizations can provide recurring social contexts in which employees experience positive emotions (Fredrickson, 2003). Since the virtues of gratitude, kindness, caring, and forgiveness have distinctively social origins, it is a positive emotional experience for employees to work and interact with others in a virtuous organization. Consistent with the synergy hypothesis, the BBT supports the notion that virtues and their inherent positive emotions are contagious so that they have multiplicative effects as they are spread through the organization. This collective positive experience broadens employees’ attention and cognition, and over time, builds psychological resources for coping. Building resources in turn generates optimal individual and organizational functioning (Fredrickson, 2003). Taken together, organizational virtuousness is expected to promote cognitive reappraisal, which would then promote PsyCap, and in turn enable employees to flourish and thrive. Building on the existing literature, well-being and organizational commitment are proposed as hedonic (attaining enjoyment and avoiding pain leads to happiness) and eudaimonic outcomes (actualizing human potential through engaging in meaningful and purposeful activities; Deci & Ryan, 2008). For well-being, both life satisfaction (feeling good) and flourishing (functioning well) are expected outcomes of organizational virtuousness (Diener et al., 1985, 2010). For organizational commitment, the attitudinal and behavioral aspects of employees’ engagement in a virtuous organization are expected to manifest in the form of affective commitment (positive emotional attachment to organizational goals and values) and contextual performance (proactive engagement in extra-role activities that contribute to the organization’s efficacy), respectively (Meyer & Allen, 1991; Motowidlo & Van Scotter, 1994).

The Present Study

The contributions of this study are threefold. First, extending beyond existing research that has adopted a composite model of organizational virtuousness (Ahmed et al., 2018; Singh et al., 2018), the present study aims to investigate the discrete dimensions conceptualized and validated by Cameron et al., (2011) to shed light on the specific roles of collective gratitude, kindness, caring, and forgiveness for promoting desirable employee outcomes. This provides: (1) theoretical advancement by revealing whether the individual components of organizational virtuousness have differential effects on well-being and organizational commitment, and whether they
operate through common psychosocial processes; and (2) managerial implications by highlighting the specific characteristics of a positive work culture that nurture a flourishing workforce to inform organizational policies, practices, and intervention programs.

Second, the underlying mechanisms through which organizational virtuousness operate remain largely unknown. Of the few studies conducted, affective well-being was the core mediator linking organizational virtuousness to employee outcomes (Magnier-Watanabe et al., 2017; Rego et al., 2010; Singh et al., 2018). However, it oversimplifies the process because individuals are not passive recipients in the social environment, but are actively engaged in the perception, evaluation, and regulation of experiences (Fredrickson, 2001). Drawing from the BBT, a serial mediation model of organizational virtuousness is tested to provide theoretical insight into the mediating roles of cognitive reappraisal and PsyCap on employee functioning.

Third, the cross-sectional approach has been the primary research method for studying organizational virtuousness. To the best of our knowledge, this is one of the first prospective studies to investigate the associations between organizational virtuousness, well-being, organizational commitment, and their mechanisms. Using a three-wave prospective design, the intermediate and distal effects of organizational virtuousness were examined to produce more rigorous inferences about strength and direction, which is valuable for research and in practice.

Teachers were chosen as the target participants in this study to investigate and exemplify the effects of organizational virtuousness. Education is ranked as one of the most stressful occupations (Howard et al., 2017) and has been largely impacted by the COVID-19 pandemic in recent years (i.e., changing modes of working and requiring new skillsets and competencies; Wang, Pang, Zhou, Ma, & Wang, 2021). It is especially stressful to work in the education sector in Hong Kong where almost 70% of the teachers work for over 50 h per week, 80% experience stress and exhaustion, and 40% feel frustrated (Hong Kong Federation of Education Workers, 2015). The dire situation can be attributed to a number of contextual factors, such as structural education reforms, administrative structure of schools, and the career structure of teaching (Tsang, 2018). Therefore, data from teachers can generate valuable insight into the unique benefits that organizational virtuousness can bring to the education sector.

Using a 3-wave prospective design with a sample of primary and secondary schoolteachers in Hong Kong, it was hypothesized that: (H1) organizational virtuousness (gratitude, kindness, caring, and forgiveness) at Time 1 (T1) would positively predict well-being (life satisfaction and flourishing) and organizational commitment (affective commitment and contextual performance) at Time 3 (T3); (H2) Organizational virtuousness at T1 would positively predict cognitive reappraisal at Time 2 (T2); (H3) cognitive reappraisal at T2 would positively predict PsyCap at T3; (H4) PsyCap would positively predict well-being and organizational commitment at T3; and (H5) the associations between organizational virtuousness at T1 and well-being and organizational commitment at T3 would be sequentially mediated by cognitive reappraisal at T2 and PsyCap at T3 (Fig. 1).
Methods

Participants and Procedures

A prospective study was conducted with three time points: baseline (T1), three months (T2), and one year (T3). Collecting data at three points in time is recommended for testing directional inferences to minimize common method bias and account for the temporal order of relationships (Maxwell & Cole, 2007; Podsakoff et al., 2003). A one-year duration was adopted to examine the impact of organizational virtuousness on well-being and organizational commitment while maintaining acceptable retention rates at follow-up (Ho & Chan, 2022a).

The participants were primary and secondary schoolteachers in Hong Kong who were recruited through the principal, vice principal, or supervisor of the participating schools. The schools were government funded, aided, or subsidized. The education sector provides the suitable conditions for studying organizational virtuousness since schools share a similar hierarchical structure, job nature, and physical work environment, and are governed by sector-wide policies (Education Bureau, 2021). Therefore, many confounding factors are naturally controlled, enabling different units within the industry to be comparable. The participants received a link via the school intranet to complete an online questionnaire at three time points. Their responses were submitted on the survey website and access to the data was restricted to the research team to ensure objectivity. Informed consent was obtained from the participants prior to data collection. Their participation was voluntary, and they had the right to withdraw at any time without negative consequences. The participants received a HKD100 supermarket coupon (equivalent to USD13) as an incentive for completing each questionnaire. The study was approved by the Human Research Ethics Committee of the affiliated university.

A total of 444 teachers from 21 local schools completed the questionnaire at T1, 345 (78%) at T2, and 280 (63%) at T3. The sample size was determined based on an alpha of 0.05, statistical power of 0.95, and medium effect size of 0.30 (Faul et al., 2007). The sample consisted of 273 teachers (61.5%) from 12 primary schools and 171 teachers (38.5%) from 9 secondary schools. A majority of the participants were female (67.1%, n=298) with ages ranging from 40 to 49 years (30%, n=133). Most of them had master’s degrees (43.7%, n=194) and had worked for an average of 14.85 years (SD=10.05) in the education sector. Independent samples t-tests showed that organizational virtuousness in primary schools was significantly higher than that

Fig. 1 Conceptual Model of the Associations between Organizational Virtuousness, Cognitive Reappraisal, Psychological Capital, Well-Being, and Organizational Commitment
in secondary schools (all $p<.001$), so educational stage was controlled for in the analysis in addition to demographic characteristics.

**Measures**

**Organizational Virtuousness.** The Positive Practices Survey was used to measure collective behaviors that characterize positivity in organizations (Cameron et al., 2011). Subscales include gratitude (7 items), kindness (7 items), caring (4 items), and forgiveness (3 items). Responses are given on a 5-point scale (1 = *strongly disagree*; 5 = *strongly agree*), with higher scores indicating a more virtuous organization in a particular domain. An example of the scale is “We express gratitude to each other.” Scoring involves aggregating individual responses at the organizational level (Cameron et al., 2011). Intracluster correlation coefficient (ICC) was computed (Killip et al., 2004), which showed that this variable should be analyzed at an organizational level to account for clustering ($\rho = 0.10$). The internal reliability for the gratitude ($\alpha = 0.95$), kindness ($\alpha = 0.92$), caring ($\alpha = 0.90$), and forgiveness ($\alpha = 0.85$) subscales was high.

**Cognitive Reappraisal.** The Emotion Regulation Questionnaire was used to measure cognitive reappraisal as an adaptive strategy for changing one’s attention and cognition (Gross & John, 2003). The subscale consists of 6 items rated on a 7-point scale (1 = *strongly disagree*; 7 = *strongly agree*). A higher score indicates greater cognitive efforts to up-regulate positive emotions and down-regulate negative emotions by reframing the meaning of a situation. An example of the scale is “I control my emotions by changing the way I think about the situation I’m in.” It is widely used in the emotion regulation literature and has been validated in Chinese (Li & Wu, 2020). The internal reliability of the scale in the present study was high ($\alpha = 0.91$).

**Psychological Capital.** The Psychological Capital Questionnaire Short Form was used to measure PsyCap as a higher-order construct encompassing hope, efficacy, resilience, and optimism (Avey et al., 2011). It consists of 12 items, and the overall score is computed by averaging all items in the scale (Luthans et al., 2007). Responses are given on a 6-point scale (1 = *strongly disagree*; 6 = *strongly agree*), with a higher score indicating a higher level of PsyCap. An example of the scale is “I always look on the bright side of things regarding my job.” It has been validated in Chinese and is widely adopted in PsyCap research on Chinese populations (Wen et al., 2009). The internal reliability of the scale in the present study was high ($\alpha = 0.92$).

**Life Satisfaction.** The Satisfaction with Life Scale was used to measure global cognitive judgment of subjective well-being (Diener et al., 1985). It consists of 5 items rated on a 7-point scale (1 = *strongly disagree*; 7 = *strongly agree*), with a higher score indicating a higher level of life satisfaction. An example of the scale is “I am satisfied with my life.” It is one of the most widely used instruments for assessing subjective well-being and has been translated and validated in numerous languages, including Chinese (Bai et al., 2011). The internal reliability of the scale in the present study was high ($\alpha = 0.92$).

**Flourishing.** The Flourishing Scale was used to measure psychosocial well-being (Diener et al., 2010). It consists of 8 items related to the psychological needs of relationships, meaning, engagement, self-acceptance, and competence. Responses
are given on a 7-point scale (1 = strongly disagree; 7 = strongly agree), with a higher score indicating a higher level of flourishing. An example of the scale is “I lead a purposeful and meaningful life”. It has been translated and validated in multiple languages, including Chinese (Tang et al., 2016). The internal reliability of the scale in the present study was high (α = 0.90).

**Affective Commitment.** The Affective Commitment Scale was used to measure emotional attachment to the organization (Meyer & Allen, 1991). It consists of 6 items rated on a 5-point scale (1 = strongly disagree; 5 = strongly agree), with a higher score indicating a higher sense of belonging and identification with the organization. An example of the scale is “This organization has a great deal of personal meaning to me.” The Chinese version of the scale has been validated and is widely used in organizational research (Cheng & Stockdale, 2003). The internal reliability of the scale in the present study was high (α = 0.87).

**Contextual Performance.** The Individual Work Performance Questionnaire was used to measure voluntary individual efforts that contribute to the overall well-being of the organization (Koopmans et al., 2012). The subscale consists of 8 items rated on a 5-point scale (0 = seldom/never; 4 = always), with a higher score indicating more frequent contextual performance. An example of the scale is “I took on extra responsibilities.” It has demonstrated convergent and discriminant validity and measurement invariance across cultures (Koopmans et al., 2016). The internal reliability of the scale was high (α = 0.89).

**Data Analysis**

Statistical analysis was performed using IBM SPSS Statistics (IBM Corp, 2020) and PROCESS macro (Hayes, 2017). Previous studies often adopted complete case analysis to deal with missing data collected at multiple points in time, which could lead to biased parameter estimates and substantial loss of statistical power (Graham, 2009). We used the expectation-maximization (EM) algorithm to treat missing observations due to incomplete responses or dropout at follow-up to produce more valid and reliable results than case-wise deletion (Dempster et al., 1977). Little’s MCAR test showed that the data was missing completely at random (p > .05) suggesting that the imputation procedure was appropriate (Roderick, 1988). Pearson correlation was carried out to explore the relationships between variables. Serial mediation analyses were conducted to examine the hypothesized direct and indirect effects. The mediation model included organizational virtuousness at T1 as predictor, cognitive reappraisal at T2 as mediator 1, PsyCap at T3 as mediator 2, and life satisfaction, flourishing, affective commitment, and contextual performance at T3 as outcomes. Control variables included age, sex, education level, and educational stage. Indirect effects were tested using the bootstrap method to produce 95% bias-corrected confidence intervals based on 10,000 bootstrap samples (Hayes, 2017). Sensitivity analysis using complete cases yielded similar results; thus only the results based on the EM method are reported here as a more rigorous approach.
Results

Intercorrelations

Gratitude ($r=.18$, $p<.001$), kindness ($r=.18$, $p<.001$), caring ($r=.15$, $p=.002$), and forgiveness at T1 ($r=.14$, $p=.004$) were positively correlated with cognitive reappraisal at T2 (Table 1). Cognitive reappraisal at T2 was positively correlated with PsyCap at T3 ($r=.18$, $p<.001$). PsyCap was positively correlated with life satisfaction ($r=.49$, $p<.001$), flourishing ($r=.50$, $p<.001$), affective commitment ($r=.42$, $p<.001$), and contextual performance at T3 ($r=.57$, $p<.001$). The correlations between gratitude, kindness, caring, and forgiveness were high ($r=.86–.96$) so the variance inflation factor was computed, which showed that multicollinearity was not severe (VIF = 1.95–5.46; Myers 1990). Nevertheless, they were separately analyzed in the mediation model to avoid cancelling out each other’s effects (Hayes, 2017).

Mediation Model

The results of the serial mediation model are illustrated in Fig. 2. The direct effects of gratitude ($b=0.48$, $p=.01$), kindness ($b=0.42$, $p=.01$), caring ($b=0.30$, $p=.04$), and forgiveness at T1 ($b=0.38$, $p=.03$) on cognitive reappraisal at T2 were positive and significant. Cognitive reappraisal at T2 had a positive and significant direct effect on PsyCap at T3 ($b=0.11$, $p<.001$). PsyCap had positive and significant direct effects on life satisfaction ($b=0.91$, $p<.001$), flourishing ($b=0.65$, $p<.001$), affective commitment ($b=0.45$, $p<.001$), and contextual performance at T3 ($b=0.51$, $p<.001$). The results were significant regardless of age, sex, education level, and educational stage. The direct effects of organizational virtuousness on well-being and organizational commitment are summarized in Table 2.

Results from bootstrapping showed that gratitude, kindness, and forgiveness at T1 had significant indirect effects through cognitive reappraisal at T2 and then PsyCap at T3 on life satisfaction ($b=0.05$, 95% CI [0.010, 0.100]; $b=0.04$, 95% CI [0.007,
0.093; $b=0.04$, 95% CI [0.003, 0.091], respectively), flourishing ($b=0.03$, 95% CI [0.005, 0.066]; $b=0.03$, 95% CI [0.002, 0.064], respectively), affective commitment ($b=0.02$, 95% CI [0.005, 0.051]; $b=0.02$, 95% CI [0.004, 0.047]; $b=0.02$, 95% CI [0.002, 0.044], respectively), and contextual performance at T3 ($b=0.03$, 95% CI [0.006, 0.057]; $b=0.02$, 95% CI [0.004, 0.051]; $b=0.02$, 95% CI [0.002, 0.050], respectively). Caring at T1 had significant indirect effects through cognitive reappraisal at T2 and then PsyCap at T3 on life satisfaction ($b=0.03$, 95% CI [0.001, 0.071]) and contextual performance at T3 ($b=0.02$, 95% CI [0.001, 0.041]), but not flourishing and affective commitment at T3. The indirect effects of organizational virtuousness on well-being and organizational commitment are summarized in Table 2.

Discussion

This is the first study to conduct a 1-year prospective investigation on the associations between organizational virtuousness, well-being, and organizational commitment, as sequentially mediated by cognitive reappraisal and PsyCap. Partially consistent with H1, the results showed that collective gratitude, kindness, caring, and forgiveness at baseline (T1) had direct positive effects on life satisfaction and affective commitment, but not flourishing and contextual performance, one year later (T3). Consistent with H2 and H3, all four components of organizational virtuousness at baseline (T1) had direct positive effects on cognitive reappraisal three months later (T2), which in turn had a direct positive effect on PsyCap one year later (T3). Consistent with H4, PsyCap had direct positive effects on life satisfaction, flourishing, affective commitment, and contextual performance at one year (T3). Largely consistent with H5, cognitive reappraisal and PsyCap served as sequential mediators of the relationships between organizational virtuousness (gratitude, kindness, and forgiveness) and all...
Table 2 Serial Mediation from Organizational Virtuousness to Cognitive Reappraisal to Psychological Capital to Well-Being and Organizational Commitment

| Model                                | b     | SE    | p      | 95% CI           |
|--------------------------------------|-------|-------|--------|------------------|
| Direct Effect                        |       |       |        |                  |
| Gratitude → CR                       | 0.48  | 0.18  | 0.01   | [0.131, 0.824]   |
| Kindness → CR                        | 0.42  | 0.16  | 0.01   | [0.097, 0.735]   |
| Caring → CR                          | 0.30  | 0.15  | 0.04   | [0.009, 0.590]   |
| Forgiveness → CR                     | 0.38  | 0.17  | 0.03   | [0.044, 0.720]   |
| CR → PsyCap                          | 0.11  | 0.03  | <0.001 | [0.052, 0.173]   |
| PsyCap → LS                          | 0.91  | 0.08  | <0.001 | [0.747, 1.07]    |
| PsyCap → FL                          | 0.65  | 0.05  | <0.001 | [0.539, 0.755]   |
| PsyCap → AC                          | 0.45  | 0.05  | <0.001 | [0.347, 0.551]   |
| PsyCap → CP                          | 0.51  | 0.04  | <0.001 | [0.439, 0.590]   |
| Gratitude → LS                       | 0.53  | 0.20  | 0.01   | [0.140, 0.924]   |
| Kindness → LS                        | 0.46  | 0.18  | 0.01   | [0.103, 0.824]   |
| Caring → LS                          | 0.36  | 0.17  | 0.03   | [0.036, 0.691]   |
| Forgiveness → LS                     | 0.53  | 0.19  | 0.01   | [0.149, 0.910]   |
| Gratitude → FL                       | 0.22  | 0.13  | 0.10   | [-0.044, 0.474]  |
| Kindness → FL                        | 0.20  | 0.12  | 0.10   | [-0.036, 0.440]  |
| Caring → FL                          | 0.15  | 0.11  | 0.19   | [-0.071, 0.361]  |
| Forgiveness → FL                     | 0.21  | 0.13  | 0.10   | [-0.040, 0.463]  |
| Gratitude → AC                       | 0.51  | 0.12  | <0.001 | [0.264, 0.755]   |
| Kindness → AC                        | 0.50  | 0.11  | <0.001 | [0.273, 0.722]   |
| Caring → AC                          | 0.43  | 0.10  | <0.001 | [0.226, 0.635]   |
| Forgiveness → AC                     | 0.61  | 0.12  | <0.001 | [0.379, 0.850]   |
| Gratitude → CP                       | 0.01  | 0.09  | 0.95   | [-0.175, 0.187]  |
| Kindness → CP                        | -0.01 | 0.08  | 0.89   | [-0.178, 0.155]  |
| Caring → CP                          | 0.03  | 0.08  | 0.74   | [-0.125, 0.177]  |
| Forgiveness → CP                     | 0.01  | 0.09  | 0.91   | [-0.166, 0.186]  |
| Indirect Effect                      |       |       |        |                  |
| Gratitude → CR → PsyCap → LS         | 0.05  | 0.02  |       | [0.010, 0.100]   |
| Kindness → CR → PsyCap → LS          | 0.04  | 0.02  |       | [0.007, 0.093]   |
| Caring → CR → PsyCap → LS            | 0.03  | 0.02  |       | [0.001, 0.071]   |
| Forgiveness → CR → PsyCap → LS       | 0.04  | 0.02  |       | [0.003, 0.091]   |
| Gratitude → CR → PsyCap → FL         | 0.03  | 0.02  |       | [0.008, 0.072]   |
| Kindness → CR → PsyCap → FL          | 0.03  | 0.02  |       | [0.005, 0.066]   |
| Caring → CR → PsyCap → FL            | 0.02  | 0.01  |       | [0.000, 0.054]   |
| Forgiveness → CR → PsyCap → FL       | 0.03  | 0.02  |       | [0.002, 0.064]   |
| Gratitude → CR → PsyCap → AC         | 0.02  | 0.01  |       | [0.005, 0.051]   |
| Kindness → CR → PsyCap → AC          | 0.02  | 0.01  |       | [0.004, 0.047]   |
| Caring → CR → PsyCap → AC            | 0.02  | 0.01  |       | [0.000, 0.036]   |
| Forgiveness → CR → PsyCap → AC       | 0.02  | 0.01  |       | [0.002, 0.044]   |
| Gratitude → CR → PsyCap → CP         | 0.03  | 0.01  |       | [0.006, 0.057]   |
| Kindness → CR → PsyCap → CP          | 0.02  | 0.01  |       | [0.004, 0.051]   |
| Caring → CR → PsyCap → CP            | 0.02  | 0.01  |       | [0.001, 0.041]   |
| Forgiveness → CR → PsyCap → CP       | 0.02  | 0.01  |       | [0.002, 0.050]   |

Note. CR: cognitive reappraisal; PsyCap: psychological capital; LS: life satisfaction; FL: flourishing; AC: affective commitment; CP: contextual performance. Time point: gratitude, kindness, caring, and forgiveness (T1), CR (T2), PsyCap, LS, FL, AC, and CP (T3). Controlling for age, sex, education level, and educational stage.
four indicators of well-being and organizational commitment, while the indirect
effect of caring was supported only for life satisfaction and contextual performance.

While employee well-being and performance have traditionally been conceived
as a result of top-down organizational influence (Kossek et al., 2011), this study
contributes to the mounting evidence that the organizational culture is also a product of
employees’ contribution and creation (Cameron et al., 2011). In line with the social
cognitive theory (Wood & Bandura, 1989) and social exchange theory (Cropanzano
et al., 2017), which postulate a bidirectional relationship between the individual and
environmental context, the study findings showed that employees can be both prod-
ucts and producers of their work environment. By investigating organizational vir-
tuousness, we were able to demonstrate some aspects of this reciprocal causation in
which an employee is, at the same time, an actor and recipient of gratitude, kindness,
caring, and forgiveness in the workplace. This has theoretical implications for the
work on organizational behavior that is grounded in the assumption that employ-
eses should be influenced in a hierarchical fashion by management practices, such
as leadership style (Hoch et al., 2018), supervisor role modeling (Brown & Treviño,
2014), and managerial support (Kossek et al., 2011). Future research is encouraged to
further investigate work culture as formed by interpersonal dynamics and its implica-
tions for individual and organizational functioning.

In support of the BBT (Fredrickson, 2001, 2003), our study demonstrated that
organizational virtuousness, namely collective gratitude, kindness, and forgiveness,
are important contributors to well-being and organizational commitment. They oper-
ate through the broadening of employees’ attention and cognition, as shown by the
higher tendency to use cognitive reappraisal to interpret experiences in a positive and
meaningful way. Over time, broadened thinking builds personal resources such that
employees become more hopeful, efficacious, resilient, and optimistic, and in turn
experience higher levels of satisfaction with life, enter a state of flourishing, become
more emotionally attached to the organization, and engage in more extra-role activi-
ties that contribute to the organization’s efficacy. The present study concurs with
existing findings on organizational virtuousness (Magnier-Watanabe et al., 2017;
Singh et al., 2018; Tsachouridi & Nikandrou, 2020) and supports the largely theorized
assumption that collective positive attributes and behaviors can promote extraordi-
nary outcomes (Meyer, 2018). The results unraveled the psychosocial mechanisms
through which organizational virtuousness operates, providing an empirical explana-
tion for the benefits that virtuous organizations bring to their employees.

Mixed results were found for caring as a collective virtue. In line with the BBT,
collective caring operates through an affective process for two out of four outcomes,
whereby cognitive reappraisal and PsyCap are cultivated to enhance life satisfaction
and contextual performance. However, these underlying mechanisms were not sup-
ported for affective commitment where only a direct effect from caring was found.
This finding suggests that there may be other processes at play for different virtues. A
recent study ruled out the role of social exchange mechanisms of organizational vir-
tuousness, revealing that prosocial motives can explain its effects above and beyond
self-interested considerations (Tsachouridi & Nikandrou, 2020). Since caring has a
strong conceptual basis as a humanity virtue for establishing interpersonal relation-
ships with others (Peterson & Seligman, 2004), social psychology theories on proso-
cial behaviors might be appropriate for explaining the social process. For example, the need-to-belong theory claims that people conform to social norms in order to feel accepted as a member of a group (Baumeister, 2012), so collective caring may engender a heightened sense of belonging through shared values among employees, which in turn promote positive functioning. Further research is needed to test this hypothesis and identify other potential processes.

The lack of associations between caring and flourishing was an unexpected finding. This is contrary to what has been found in the positive psychology literature that suggests positive social relationships are one of the core building blocks for profound fulfillment in life (Seligman, 2011). In a study that compared the effects of the individual components of organizational virtuousness, it was also found that caring was the weakest determinant of organizational effectiveness (Cameron et al., 2011). The researchers explained that it could be due to a ceiling effect because the target sample consisted of nursing units where caring is their core value and practice. Similarly, our study was conducted in the education sector where caring is a large part of teachers’ work, so its effect on flourishing may not be observed in this study sample since they shared the same nature of work. Another possible explanation is that the operationalization of caring more closely reflects attitude or belief (e.g., “We think of each other as friends”) as opposed to an expression of emotion or enactment of behavior (e.g., gratitude: “We show appreciation for one another”; kindness: “We help people who are facing difficulty”; forgiveness: “We correct errors without placing blame”). This distinction may explain the differential effects among the components of organizational virtuousness. Nevertheless, it highlights the importance of studying the specific role of each dimension of virtues rather than their aggregated effects examined in the organizational literature.

Although the present results from a Chinese sample largely echo those found in the United States (Cameron et al., 2011), Portugal (Rego et al., 2011), Japan (Magnier-Watanabe et al., 2017), India (Singh et al., 2018), and Pakistan (Ahmed et al., 2018), it is expected that the effects of organizational virtuousness could be modified by cultural or contextual factors. For example, the mental health of teachers in Hong Kong is largely influenced by the structural factors specific to the education system (Tsang, 2018), while teachers from other countries or regions may be affected by different environmental and job stressors. Moreover, the education curriculum in some places may require teachers to engage in co-planning and co-teaching so a high level of cooperative work is needed, whereas teachers in other places may work more independently. These factors could strengthen or buffer the effects of organizational virtuousness. In particular, the job demands-resources model (Bakker & Demerouti, 2007) suggests that employees’ psychological and behavioral responses to the work environment are determined by the interaction between job demands (e.g., organizational constraints) and job resources (e.g., organizational virtuousness). Therefore, future research should explore the moderators of the relationship between organizational virtuousness and employee outcomes.
Limitations

This study should be considered with the following limitations. First, the voluntary nature of the data collection method might have introduced self-selection bias to the study findings (Sutton & Edlund, 2019). Educators who were willing to contribute their time and effort in repeated assessments might be working in a more positive environment and therefore were more likely to appraise research opportunities as beneficial and possess a larger reserve of personal resources to handle additional responsibilities than those who refrained from participating in the study. Second, primary and secondary schoolteachers were selected for examining the effects of organizational virtuousness to control for organizational confounds. Nevertheless, it may limit the generalizability of the results to other types of employees, especially those working in manual labor industries. Interpretation of the study findings should be considered in the human services sector. Third, culture might be another confounding factor that limit the generalizability of the results since the sample was consisted of Chinese employees. Past research suggests that reciprocity might be more pronounced in collectivistic cultures (Mintu-Wimsatt & Madjourova-Davri, 2011) so the collective practice of virtuous behaviors may not be as prominent in individualistic cultures. Fourth, social desirability bias may be present because self-report measures were adopted. Nevertheless, the validity and reliability of the scales have been empirically tested among different populations (Avey et al., 2011; Cameron et al., 2011; Diener et al., 1985, 2010; Gross & John, 2003; Koopmans et al., 2012; Meyer & Allen, 1991) and ceiling effect is minimal (Ramos-Villagrasa et al., 2019). Since organizational virtuousness is not a standard indicator adopted by industries, self-report assessments remain the primary data collection method (Bright et al., 2014). Finally, although time gaps of three months and one year were adopted to separate the time of assessments to account for the temporal order of relationships, findings should be interpreted with the caveat that the observations were limited to the specific time frame of the study. This method still offers scientific merit over the cross-sectional approach adopted by most studies on organizational virtuousness.

Implications and Conclusions

This study indicates that it is worthwhile for employers, managers, and supervisors to invest their time and effort to advocating a positive work culture, especially one that values and encourages virtuous character in the workplace, because it can lead to optimal employee and organizational functioning in the long run. People working in a virtuous organization not only feel satisfied with life and enter a state of flourishing, but are also committed and willing to take an extra mile to contribute to the organization’s core. The prospective data from this study supported the happy-productive worker thesis, which states that happy workers outperform those who are less happy (Cropanzano & Wright, 2001). This statement has often been overlooked in human resource management because employees are typically considered as mere resources for helping organizations reach objectives and gain competitive advantage (Jackson, 2002). Employee-oriented management practices that consider employees’
well-being, address their needs, value their contributions, and support their personal growth will create a win-win situation for the employees and the organization. The management level should formulate and implement organizational policies and practices that: (1) instill a sense of trust, respect, and appreciation for one another; (2) facilitate mutual support for thriving and overcoming obstacles together; (3) create a friendly environment that cherishes harmonious relationships; and (4) embrace a forgiving work culture to encourage learning from mistakes. Since organizational virtuousness influences employees’ holistic well-being beyond the work context, one might expect the benefits of fostering a virtuous workplace to spill over to the employees’ non-work life.

Gotsis & Grimani (2015) generated an encompassing framework for understanding the management of virtues at the individual, organizational, and societal levels with emphasis on supporting virtuousness through vision, culture, and leadership. Dyck & Wong (2010) proposed a replacement of conventional management theory and practice with a four-phase process model that informs virtue-based management, facilitates moral agency, and cultivates organizational virtuousness. Rego et al., (2013) showed that authentic leadership can promote team commitment and effectiveness through fostering team virtuousness characterized by compassion, trust, and forgiveness. Luthans et al., (2010) provided training guidelines for managers to instill positivity and promote PsyCap among employees. Kaplan et al., (2014) developed gratitude and social connectedness interventions to increase employee well-being.

In sum, organizational virtuousness is vital to the functioning of employees and the organization at large. An upward spiral of flourishing and thriving is expected when organizational members are grateful, kind, and forgiving to one another.

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Compliance with Ethical Standards

Disclosure of potential conflicts of interest The authors declare that they have no conflict of interest.

Research involving Human Participants This project was approved by the Human Research Ethics Committee of the Education University of Hong Kong (Ref. no. 2018-2019-0346).

Informed consent Informed consent was obtained from all subjects involved in the study.

References

Ahmed, I., Rehman, W., Ali, F., Ali, G., & Anwar, F. (2018). Predicting employee performance through organizational virtuousness: Mediation by affective well-being and work engagement. Journal of Management Development, 37(6), 493–502. https://doi.org/10.1108/JMD-04-2017-0115
Ahn, H. M., Kim, S. A., Hwang, I. J., Jeong, J. W., Kim, H. T., Hamann, S., & Kim, S. H. (2015). The effect of cognitive reappraisal on long-term emotional experience and emotional memory. *Journal Of Neuropsychology*, 9(1), 64–76. https://doi.org/10.10111/jnp.12035

Alessandri, G., Consiglio, C., Luthans, F., & Borgogni, L. (2018). Testing a dynamic model of the impact of psychological capital on work engagement and job performance. *The Career Development International*, 23(1), 33–47. https://doi.org/10.1108/CDI-11-2016-0210

Au, A. K. C., & Leung, K. (2016). Differentiating the effects of informational and interpersonal justice in co-worker interactions for task accomplishment. *Applied Psychology: An International Review*, 65(1), 132–159. https://doi.org/10.1111/apps.12060

Avey, J. B., Avolio, B. J., & Luthans, F. (2011). Experimentally analyzing the impact of leader positivity on follower positivity and performance. *The Leadership Quarterly*, 22(2), 282–294. https://doi.org/10.1016/j.leaqua.2011.02.004

Babalola, M. T., Garcia, P. R. J. M., Ren, S., Ogunfowora, B., & Gok, K. (2022). Stronger together: Understanding when and why group ethical voice inhibits group abusive supervision. *Journal of Organizational Behavior*, 43(3), 386–409. https://doi.org/10.1002/job.2582

Bai, X., Wu, C., Zheng, R., & Ren, X. (2011). The psychometric evaluation of the Satisfaction with Life Scale using a nationally representative sample of China. *Journal of Happiness Studies: An Interdisciplinary Forum on Subjective Well-Being*, 12(2), 183–197. https://doi.org/10.1007/s10902-010-9186-x

Baker, W. E., & Bulkley, N. (2014). Paying it forward vs rewarding reputation: Mechanisms of generalized reciprocity. *Organization Science*, 25(5), 1493–1510. https://doi.org/10.1287/orsc.2014.0920

Bakker, A. B., & Demerouti, E. (2007). The Job Demands–Resources model: State of the art. *Journal of Managerial Psychology*, 22(3), 309–328. https://doi.org/10.1108/02683940710733115

Baumeister, R. F. (2012). Need-to-belong theory. *The Academy of Management Annals*, 6(1), 132–159. https://doi.org/10.10111/anals.2015.0099

Bakker, B. C. L., & Luthans, F. (2006). Toward a positive theory of individual and collective behavior. *The Academy of Management Review*, 31(1), 132–159. https://doi.org/10.5465/annals.2015.0099

Bright, D. S., & Fry, R. E. (2013). Introduction: Building ethical, virtuous organizations. *The Journal of Applied Behavioral Science*, 49(1), 5–12. https://doi.org/10.1177/0021886361473574

Bright, D. S., Winn, B. A., & Kanov, J. (2014). Reconsidering virtue: Differences of perspective in virtue ethics and the positive social sciences. *Journal of Business Ethics*, 119(4), 445–460. https://doi.org/10.1007/s10551-013-1832-x

Brown, M. E., & Treviño, L. K. (2014). Do role models matter? An investigation of role modeling as an antecedent of perceived ethical leadership. *Journal of Business Ethics*, 122(4), 578–598. https://doi.org/10.1007/s10551-013-1769-0

Chancellor, J., Margolis, S., Jacobs Bao, K., & Lyubomirsky, S. (2018). Everyday prosociality in the workplace: The reinforcing benefits of giving, getting, and glimpsing. *Emotion*, 18(4), 507–517. https://doi.org/10.1017/emo00000321

Chang, Y. P., Dwyer, P. C., & Algoe, S. B. (2021). Better together: Integrative analysis of behavioral gratitude in close relationships using the three-factorial interpersonal emotions (TIE) framework. *Journal of Happiness Studies: An Interdisciplinary Forum on Subjective Well-Being*, 22(2), 282–294. https://doi.org/10.1016/j.leaqua.2011.02.004

Cheng, Y., Stockdale, M. S. (2003). The validity of the three-component model of organizational commitment in a Chinese context. *Journal of Vocational Behavior*, 62(3), 465–489. https://doi.org/10.1016/S0001-8791(02)00063-5

Caza, B. B. (2016). An Introduction to Positive Organizational Scholarship. In A. J. G. Sison (Ed.), *Handbook of Virtue Ethics in Business and Management* (pp. 1–16). Springer Netherlands. https://doi.org/10.1007/978-1-4462-4922-2

Chang, Y. P., Dwyer, P. C., & Algoe, S. B. (2021). Better together: Integrative analysis of behavioral gratitude in close relationships using the three-factorial interpersonal emotions (TIE) framework. *Journal of Happiness Studies: An Interdisciplinary Forum on Subjective Well-Being*, 22(2), 282–294. https://doi.org/10.1016/j.leaqua.2011.02.004
Culbertson, S. S., Fullagar, C. J., & Mills, M. J. (2010). Feeling good and doing great: the relationship between psychological capital and well-being. *Journal of Occupational Health Psychology, 15*(4), 421–433. https://doi.org/10.1037/a0020720

Deci, E. L., & Ryan, R. M. (2008). Hedonia, eudaimonia, and well-being: An introduction. *Journal of Happiness Studies, 9*(1), 1–11. https://doi.org/10.1007/s10902-006-9018-1

Dempster, A. P., Laird, N. M., & Rubin, D. B. (1977). Maximum Likelihood from Incomplete Data via the EM Algorithm. *Journal of the Royal Statistical Society Series B (Methodological), 39*(1), 1–38. http://www.jstor.org/stable/2984875

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal Of Personality Assessment, 49*(1), 71–75. https://doi.org/10.1207/s15327752jpa4901_13

Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D., Oishi, S., & Biswas-Diener, R. (2010). New well-being measures: Short scales to assess flourishing and positive and negative feelings. *Social Indicators Research, 97*(2), 143–156. https://doi.org/10.1007/s11205-009-9493-y

Dyck, B., & Wong, K. (2010). Corporate spiritual disciplines and the quest for organizational virtue. *Journal of Management Spirituality & Religion, 7*(1), 7–29. https://doi.org/10.1080/14766080903497565

Education Bureau (2021). *Primary and secondary education*. The Government of the Hong Kong SAR. Retrieved January 26 from https://www.edb.gov.hk/en/about-edb/policy/primary-secondary/index.html

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*(2), 175–191. https://doi.org/10.3758/BF03193146

Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist, 56*(3), 218–226. https://doi.org/10.1037/0003-066X.56.3.218

Fredrickson, B. L. (2003). Positive emotions and upward spirals in organizations. In K. S. Cameron, J. E. Dutton, & R. E. Quinn (Eds.), *Positive organizational scholarship: Foundations of a new discipline* (pp. 163–175). Berrett-Koehler

Fredrickson, B. L., & Branigan, C. (2005). Positive emotions broaden the scope of attention and thought-action repertoires. *Cognition & emotion, 19*(3), 313–332. https://doi.org/10.1080/02699930441000238

Gotsis, G., & Grimani, K. (2015). Virtue theory and organizational behavior: An integrative framework. *Journal of Management Development, 34*(10), 1288–1309. https://doi.org/10.1108/JMD-02-2015-0021

Graham, J. W. (2009). Missing data analysis: making it work in the real world. *Annu Rev Psychol, 60*(1), 549–576. https://doi.org/10.1146/annurev.psych.58.110405.085530

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *J Pers Soc Psychol, 85*(2), 348–362

Harzer, C., & Ruch, W. (2014). The role of character strengths for task performance, job dedication, interpersonal facilitation, and organizational support. *Human Performance, 27*(3), 183–205. https://doi.org/10.1080/08999002.2014.913592

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). The Guilford Press

Ho, H. C. Y., & Chan, Y. C. (2022a). Flourishing in the workplace: A one-year prospective study on the effects of perceived organizational support and psychological capital. *International Journal of Environmental Research and Public Health, 19*(2), 922. https://doi.org/10.3390/ijerph19020922

Ho, H. C. Y., & Chan, Y. C. (2022b). The impact of psychological capital on well-being of social workers: A mixed-methods investigation. *Social Work, 67*(3), 228–238. https://doi.org/10.1093/sw/swac020

Ho, H. C. Y., & Chan, Y. C. (2022c). Longitudinal associations between psychological capital and problem-solving among social workers: A two-wave cross-lagged study. *Health & Social Care in the Community, Advance online publication*. https://doi.org/10.1111/hsc.13713

Ho, H. C. Y., Chui, O. S., & Chan, Y. C. (2022d). When pandemic interferes with work: Psychological capital and mental health of social workers during COVID-19. *Social Work. Advance online publication*. https://doi.org/10.1093/sw/swac035

Hoch, J. E., Bommer, W. H., Dulebohn, J. H., & Wu, D. (2018). Do ethical, authentic, and servant leadership explain variance above and beyond transformational leadership? A meta-analysis. *Journal of Management, 44*(2), 501–529. https://doi.org/10.1177/0149206316656461

Hong Kong Federation of Education Workers (2015). *Teacher well-being survey*. https://hkfew.org.hk/UPFILE/ArticleFile/201552117534113.pdf
Howard, K., Haskard-Zolnierek, K., Johnson, A., Roming, S., Price, R., & Cobos, B. (2017). Somatization disorder and stress in teachers: A comprehensive occupational health evaluation. *Journal of Applied Biobehavioral Research, 22*(4), 1–11. https://doi.org/10.1111/jabr.12105

IBM Corp (2020). *IBM SPSS Statistics for Windows*. In (Version 27.0) IBM Corp

Jackson, T. (2002). *International HRM: A cross-cultural approach*. SAGE

Kaplan, S., Bradley-Geist, J. C., Ahmad, A., Anderson, A., Hargrove, A. K., & Lindsey, A. (2014). A test of two positive psychology interventions to increase employee well-being. *Journal of Business and Psychology, 29*(3), 367–380. https://doi.org/10.1007/s10869-013-9319-4

Killip, S., Mahfoud, Z., & Pearce, K. (2004). What is an intracluster correlation coefficient? Crucial concepts for primary care researchers. *Annals Of Family Medicine, 2*(3), 204–208. https://doi.org/10.1370/afm.141

Koopmans, L., Bernaards, C., Hildebrandt, V., van Buuren, S., van der Beek, A. J., & de Vet, H. C. W. (2012). Development of an individual work performance questionnaire. *International Journal of Productivity and Performance Management, 62*(1), 6–28. https://doi.org/10.1108/17404011285273

Koopmans, L., Bernaards, C. M., Hildebrandt, V. H., Lerner, D., de Vet, H. C. W., & van der Beek, A. J. (2016). Cross-cultural adaptation of the Individual Work Performance Questionnaire. *Work (Reading, Mass.), 53*(3), 609–619. https://doi.org/10.3233/WOR-152237

Kossek, E. E., Pichler, S., Bodner, T., & Hammer, L. B. (2011). Workplace social support and work–family conflict: A meta-analysis clarifying the influence of general and work–family-specific supervisor and organizational support. *Personnel Psychology, 64*(2), 289–313. https://doi.org/10.1111/j.1744-6570.2010.01211.x

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer Pub. Co.

Li, C. H., & Wu, J. J. (2020). Psychometric evaluation of the Chinese Version of the Emotion Regulation Questionnaire in Taiwanese college students. *Assessment, 27*(6), 1300–1309. https://doi.org/10.1177/1073191118773875

Luthans, F. (2002). The need for and meaning of positive organizational behavior. *Journal of Organizational Behavior, 23*(6), 695–706. https://doi.org/10.1002/job.165

Luthans, F., Avey, J. B., Avolio, B. J., & Peterson, S. J. (2010). The development and resulting performance impact of positive psychological capital. *Hum Resource Dev Q, 21*. https://doi.org/10.1002/hrdq.20034

Luthans, F., Avolio, B. J., & Avey, J. B. (2007). *Psychological Capital Questionnaire Manual*. Mind Garden, Inc.

Luthans, F., & Youssef-Morgan, C. M. (2017). Psychological capital: An evidence-based positive approach. *Annu Rev Organ Psychol Organ Behav, 4*, 339–366. https://doi.org/10.1146/annurev-orgpsych-032516-113324

Magnier-Watanabe, R., Uchida, T., Orsini, P., & Benton, C. (2017). Organizational virtuousness and job performance in Japan: Does happiness matter? *International Journal of Organizational Analysis, 25*(4), 628–646. https://doi.org/10.1108/IJOA-10-2016-1074

Maxwell, S. E., & Cole, D. A. (2007). Bias in cross-sectional analyses of longitudinal mediation. *Psychological Methods, 12*(1), 23–44. https://doi.org/10.1037/1082-989X.12.1.23

Meyer, J. P., & Allen, N. J. (1991). A three-component conceptualization of organizational commitment. *Human Resource Management Review, 1*(1), 61–89. https://doi.org/10.1016/1053-4822(91)90011-Z

Meyer, M. (2018). The evolution and challenges of the concept of organizational virtuousness in positive organizational scholarship. *Journal of Business Ethics, 153*(1), 245–264. https://doi.org/10.1007/s10551-016-3388-z

Mintu-Wimsatt, A., & Madjourova-Davri, A. (2011). Reciprocal cooperation and the moderating effect of individualism: A five-country negotiation study. *Journal of Global Marketing, 24*(5), 385–396. https://doi.org/10.1080/08911762.2011.634323

Motowidlo, S. J., & Van Scotter, J. R. (1994). Evidence that task performance should be distinguished from contextual performance. *Journal of Applied Psychology, 79*(4), 475–480. https://doi.org/10.1037/0021-9010.79.4.475

Myers, R. H. (1990). *Classical and modern regression with applications*. PWS-Kent Publishing

Ng, T. W. H., Lucianetti, L., Hsu, D. Y., Yin, F. H. K., & Sorensen, K. L. (2021). You speak, I speak: The social-cognitive mechanisms of voice contagion. *Journal of Management Studies*. https://doi.org/10.1111/joms.12698
Sutton, T. M., & Edlund, J. E. (2019). Assessing self-selection bias as a function of experiment title and description: The effect of emotion and personality. *North American Journal of Psychology, 21*(2), 407–422.

Tang, X., Duan, W., Wang, Z., & Liu, T. (2016). Psychometric evaluation of the simplified Chinese version of Flourishing Scale. *Research on Social Work Practice, 26*(5), 591–599. https://doi.org/10.1177/1049731514557832

Tsachouridi, I., & Nikandrou, I. (2020). The role of prosocial motives and social exchange in mediating the relationship between organizational virtuousness’ perceptions and employee outcomes. *Journal of Business Ethics, 166*(3), 535–551. https://doi.org/10.1007/s10551-018-04102-7

Tsang, K. K. (2018). The structural causes of teacher burnout in Hong Kong. *Chinese Education & Society, 51*(6), 449–461. https://doi.org/10.1080/10611932.2018.1570797

Wagner, L., Gander, F., Proyer, R. T., & Ruch, W. (2019). Character strengths and PERMA: Investigating the relationships of character strengths with a multidimensional framework of well-being. *Applied Research in Quality of Life*. https://doi.org/10.1007/s11482-018-9695-z

Wang, Z., Pang, H., Zhou, J., Ma, Y., & Wang, Z. (2021). “What if… it never ends?”: Examining challenges in primary teachers’ experience during the wholly online teaching. *The Journal of Educational Research, 114*(1), 89–103. https://doi.org/10.1080/00220671.2021.1884823

Wei Tian, A., Cordery, J., & Gamble, J. (2016). Returning the favor: Positive employee responses to supervisor and peer support for training transfer. *International Journal of Training and Development, 20*(1), 1–16. https://doi.org/10.1111/ijtd.12066

Wen, L., Qi, S. S., & Zhang, Y. Z. (2009). A preliminary revision of Luthans psychological capital questionnaire. *Chinese Journal of Clinical Psychology, 17*

Wood, R., & Bandura, A. (1989). Social cognitive theory of organizational management. *The Academy of Management Review, 14*(3), 361–384. https://doi.org/10.2307/258173

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