

RUNNING HEAD: REDEFINING ETHICAL LEADERSHIP

Redefining ethical leadership:

**Development and psychometric evaluation of the Questionnaire of ethical
Leadership (QueL).**

Multi-study Report

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Redefining ethical leadership:

Development and psychometric evaluation of the Questionnaire of ethical Leadership (QueL)

The concept of ethical leadership was introduced almost two decades ago and research on leaders' ethical behaviors has been growing rapidly ever since (e.g., Treviño, Brown, & Hartman, 2003). Although several definitions of ethical leadership have emerged over the years, scholars disagree on what constitutes an ethical leader (e.g., Frisch & Huppenbauer, 2014). This disagreement is also reflected in the psychometric evaluation of the construct (e.g., Brown, Treviño, & Harrison, 2005; Kalshoven, Den Hartog, & De Hoogh, 2011a). Consequently, many questions concerning the characteristics and behavioral patterns of ethical leaders remain unanswered.

Besides, the debate of whether followers or leaders provide more accurate evaluations of leadership is ongoing (e.g., Fleenor, Smither, Atwater, Braddy, & Sturm, 2010). According to Hunter, Bedell-Avers, and Mumford (2007), research on rating methods revealed that both self- (i.e., leader) and observer- (i.e., follower) ratings are subject to bias. Self-ratings are prone to social desirability, while observer-ratings appear to be inadequate in capturing the whole concept of leadership. This is because important aspects of leadership, such as meetings with stakeholders, networking and organizing, are not fully conceived by followers (Kim & Yukl, 1995). Thus, leadership measures based on more integrated rating methods are needed.

In the present paper we aim to understand the nomological network of ethical leadership by making use of data from both leaders and followers (i.e., subordinates). To this end, we introduce a new measure for assessing ethical leadership at work, the Questionnaire of ethical Leadership (QueL) and test its psychometric properties by using self- and observer-ratings; this approach exhibits higher validity and lesser bias when compared to self- or observer-rating assessments, alone (e.g., Fleenor, et al., 2010). Also, we investigate the reliability and validity of QueL to support its suitability for research and practice.

Ethical leadership

The concept of ethical leadership was first introduced by Treviño et al. (2003), who

identified ‘moral person’ and ‘moral manager’ as its core dimensions. Moral person refers to leaders’ ethical traits and characteristics, while moral manager concerns the proactive behaviors that promote ethics as an explicit work practice. Later, Brown et al. (2005) addressed ethical leadership from a social learning perspective, pointing out two basic aspects: first, ethical leaders utilize ethical practices and second, ethical leaders aim at promoting those practices to followers through role modeling and observational learning. However, statistical analyses regarding the first ethical leadership measure namely, the 10-item Ethical Leadership Scale (ELS) (Brown et al., 2005), supported a unidimensional rather than the proposed two-dimensional structure. Similarly, Tanner, Brügger, van Schie, and Lebherz (2010) developed and supported a uni-dimensional measure namely, the Ethical Leadership Behavioral Scale (ELBS). Despite the empirical evidence suggesting that ethical leadership as measured with the ELS and the ELBS is a unidimensional construct, a closer look at the items of both scales suggests that their content validity is in line with Treviño et al.’s (2003) two-dimensional theoretical framework, since both scales include items that capture aspects of a ‘moral manager’ (e.g., ELS: “Sets an example of how to do things the right way in terms of ethics” and ELBS: “Takes time to instruct new staff members”) and a ‘moral person’ (e.g., ELS: “Can be trusted” and ELBS: “Keeps his/her word”).

Alternative ethical leadership frameworks and multi-dimensional measures have also been proposed. For example, Spangenberg and Theron (2005), in their 101-item Ethical Leadership Inventory, identified 19 dimensions and six first-order factors. Kalshoven et al. (2011a) developed the 38-item Ethical Leadership at Work questionnaire (ELW) suggesting a seven-factor model. Yukl, Mahsud, Hassan, and Prussia (2013) developed the 15-item Ethical Leadership Questionnaire, based on a four-factor conceptualization of ethical leadership. Finally, Zheng, Zhu, Yu, Zhang, and Zhang (2013) introduced a three-factor Ethical Leadership Measure. Although these measures share common aspects, they lack agreement regarding the framework of ethical leadership. For example, ‘fairness’ appears to be fundamental to the concept since it appears in most ethical leadership frameworks; leaders must be fair in order to be ethical. In contrast, ‘ethical evaluation’, namely the

need to provide feedback to followers and evaluate ethical contribution, is included only in some frameworks (e.g., Kalshoven, et al., 2011a). Hence, to clarify theoretical ambiguities regarding the concept of ethical leadership the theoretical importance of all dimensions should be examined.

Mitropoulou, Tsaousis, Xanthopoulou, and Petrides (2014) identified 27 dimensions as fundamental to the concept of ethical leadership by means of a multi-phase study. During the first phase, an extensive literature review was conducted. From 112 articles that were initially identified, 18 were selected since these included specific definitions of ethical leadership, as well as proposed dimensions. In the second phase, the obtained dimensions were content-analyzed for their thematic relevance by three raters. If at least three common concepts were found among dimensions, raters merged those dimensions into one. This process resulted in 27 distinct ethical leadership dimensions. Finally, two independent samples of leaders and followers rated the face validity of the 27 dimensions to justify their significance to the concept. A short description of all dimensions is provided in Table 1.

-----Table 1-----

This extensive 27-dimensional ethical leadership approach (Mitropoulou et al., 2014) has certain advantages when compared to existing ethical leadership models. First, this model captures the ethical leadership concept in depth, since it is based on and combines all existing theoretical models. Second, the theoretical significance of the 27 dimensions has been supported with respect to their face validity. Importantly, its face validity was based on both leader and follower evaluations. It is noteworthy that only four out of the 18 different ethical leadership frameworks that appear in the literature resulted from data stemming from both leaders and followers (e.g., Tanner et al., 2010). Yet, these approaches ended up capturing different dimensions, which raises concerns as to the extent they depict the full range of ethical leadership. For example, Kalshoven et al. (2011a) proposed a seven-factor model of ethical leadership, Zheng et al. (2013) a three-factor model, while Treviño et al. (2003) a two-factor model. In contrast, the 27-dimensional ethical leadership framework concluded by Mitropoulou et al. (2014) cross-evaluated all dimensions mentioned in the

literature from the leaders' and followers' standpoint. In this paper, we aim to evaluate the theoretical significance and the structural coherence of this 27-dimensional approach to ethical leadership. To do so, we developed and tested a scale using factorial invariance techniques (Studies 1 to 3) to draw conclusions regarding differences in leaders' and followers' perceptions of ethical leadership. In addition, we investigated the reliability (Study 4) and the validity (Study 5) of the new scale.

Study 1: Factor structure of the 27 dimensions

Study 1 explores the factor structure of the proposed 27 ethical leadership dimensions (Mitropoulou et al., 2014) using Exploratory Factor Analysis (EFA) based on leaders' assessments, because leaders are aware of the full spectrum of their ethical behaviors (Hunter et al., 2007).

Sample and Procedure

Ethical approval was obtained for all studies by the ethics committee of the University of Crete. Organizations with at least 50 employees were contacted through the website greatplacetowork.gr. From the 31 organizations that were initially invited, three agreed to participate (one public, two private). Management received an e-mail with information about the study purpose and a link to the online questionnaire. This e-mail was then forwarded to leaders via their HR departments. Participation was voluntary. The sample consisted of 258 leaders from private manufacture ($N = 185$) and public service ($N = 64$) organizations; 54% were men, mean age of 43 years ($SD = 11.02$) and organizational tenure was 6.7 ($SD = 7.31$). Most participants (75%) held a college/university degree.

Measure

Based on Mitropoulou et al. (2014) a 27-item ethical leadership scale was developed. Each item (see Table 1) consisted of a brief operational definition for each of the 27-dimensional characteristics of ethical leadership. All items were self-rated and positively expressed. Items were administered in Greek and responses ranged from 1 = "Does not characterize me at all" to 6 = "It absolutely characterizes me".

Results

Skewness (<2) and kurtosis (<5) reports showed that item distributions did not deviate substantially from normality (Kline, 2014). EFA was conducted using parallel analysis and minimum average partials, because they are independent of sample size and provide robust results (O' Connor, 2001). Results indicated two factors with eigenvalues of 15.66 and 1.47 respectively, explaining 60.2% of cumulative variance (explained variance were 56.5% and 3.7% for the first and second factor, respectively). Examination of the eigenvalues and scree plot also suggested two factors, reaching the minimum acceptable target of variance (Hinkin, 1998). To examine the factor structure, we used Maximum Likelihood with Promax rotation, because it is recommended when factors are correlated ($r_{Telos-Ethos} = .85, p < .01$). Every item loaded clearly on only one of the two obtained factors (> 0.40) apart from 'Ethical Self-control', which exhibited moderately high cross-loadings (.43). However, since 'Ethical Self-control' contributes greatly to ethical leadership framework (Mitropoulou et al., 2014), we decided to retain all items. The two factors were named 'Telos' and 'Ethos'. Both terms originated from the ancient Greek philosophy of Aristotle; 'Telos' (16 items) refers to leaders' ethical end, mean or purpose of behavior; 'Ethos' (11 items) portrays the ethical ground foundations of leaders' personal attitudes and characteristics. Table 2 presents descriptive statistics and factor loadings.

-----Table 2-----

Study 2: Confirming the factor structure of the QueL

In Study 2 we cross-validated the findings of Study 1 via Confirmatory Factor Analysis (CFA), using an independent new sample of leaders.

Sample and Procedure

Leaders from the personal network of the researchers, who volunteered to participate in the study, received personalized information and an electronic or paper-and-pencil copy of the questionnaire. The final sample consisted of 390 leaders ($M = 47.68$ years, $SD = 9.01$). The majority

(70%) held a college/university degree, half (44%) were males with mean organizational tenure 10.01 ($SD=10.86$).

Results

Standard assumptions of CFAs were examined before analysis (Hoyle, 2000). Four outliers were identified using the Mahalanobis distance criterion and eliminated from the sample. Data normality was checked using Mardia's multivariate normality test. Results were over the accepted limit (<3); hence, model fit was calculated using Robust Maximum Likelihood estimation for non-normality (MLR). MLR provides a correction factor that enables the calculation of Sattora-Bentler corrected chi-square (χ^2) and the adjustment of the goodness of fit statistics and standard errors of parameter estimates due to non-normality. Data were analyzed using Mplus8 (Muthén & Muthén, 1998-2017). The goodness of fit was tested for the proposed two-factor model in comparison to the one-factor model.

Results indicated that the one-factor model didn't fit the data well (Model 1; Table 3). However, moderate fit was found for the proposed two-factor model (Model 2). Next, we examined an alternative model (Model 3), where 'Ethical Self-control' loaded on 'Ethos' rather than on 'Telos' based on the EFA. Results indicated that this change resulted in worse fit. Since the within-factor correlation was high ($r = .77, p < .01$), two alternative models were examined: a hierarchical model (Model 4), where one higher-order general ethical leadership factor accounted for the communality shared by the two lower-order factors and a bifactor model (Model 5), where all factors were allowed to load on a general ethical factor, while assuming to underlie all scale items. In this bifactor model both the general ethical leadership factor and the two sub-factors ('Ethos' and 'Telos') had direct influence on the 27 observed variables. Namely, the specific factors do not mediate the influence of the general factor, as occurs in the hierarchical model, where the domain specific factors are presented by disturbances of the first higher-order factor (Model 4). Accordingly, each observed variable is a reflective indicator of both the general and the more restrictively-defined specific factors that are not correlated with the general factor. Hence, the

variance of each observed variable is decomposed into a larger number of separate components (e.g., Chen, Hayes, Carver, Laurenceau, & Zhang, 2012). Bifactor models offer valuable information about dimensionality regardless of possible violations to local independence caused by item clustering and hence, are considered more parsimonious. Analysis of the hierarchical model showed poor fit to the data, while analysis of the bifactor model showed significantly better fit (Table 3).

To understand the psychometric properties of the bifactor model, the sources of variance and omega reliability were examined for the general and the specific factors (Watkins, 2013). The general factor accounted for substantially greater proportion of QueL common (81%) and total variance (33%) relative to the common (7% Telos, 12% Ethos) and total variance (3% and 4% respectively). Also, the omega hierarchical reliability of the latent constructs, when the effects of other constructs were removed, indicated that the general factor possessed sufficiently more reliable variance for interpretation ($\omega_h = .86$) than the reliability of ‘Telos’ ($\omega_s = .19$) and ‘Ethos’ ($\omega_s = .06$), apart. These results indicate that the general factor possessed sufficient reliable variance for interpretation (86%); however, the two factors (‘Telos’ - ‘Ethos’) possessed too little reliable variance to interpret the framework of ethical leadership (19% and 6% respectively). Although this bifactor model does not foster the empirical distinctiveness of the two sub-dimensions (Ethos – Telos), it elucidates that leaders can only be perceived as ethical unless they demonstrate both ethical practice and ethical character at work.

-----Table 3-----

Study 3: Factorial invariance of the QueL

The purpose of Study 3 was to examine the factorial invariance of the bifactor ethical leadership model across different informants (i.e., leaders and followers) using multi-group CFAs (MGCFAs).

Sample and Procedure

Data from leaders and followers were used. Leaders' data ($N = 648$, $M = 45.67$ years of age, $SD = 10.67$; organizational tenure was 8.9 years, $SD = 10.02$) were combined from Studies 1, 2 and 4 (see below); 423 (65%) held a college/university degree and 57% were males. Followers' data came from a convenience sample, from organizations in various industries (e.g., manufacturing, trading, and public services). Followers who volunteered to participate received a link that automatically redirected them to the electronic format of the questionnaire. In total, 647 followers participated ($M = 40.40$ years of age, $SD = 9.69$; organizational tenure was 14.29, $SD = 8.81$), 388 (60%) held a college/university degree and 63% were women.

Measures

Leaders completed the self-rating version of the 27-item QueL, while followers completed an observer-rating version of the scale, which was modified to capture followers' perceptions about their own leader. Responses ranged from 1 = "Does not characterize him/her at all" to 6 = "It absolutely characterizes him/her".

Results

Standard assumptions of CFA were examined in both samples (Hoyle, 2000). Model fit and model fit comparisons were performed using the MLM calculation of Sattora-Bentler corrected chi-square (χ^2). The goodness of fit of the bifactor model was tested for self-ratings: [$\chi^2(297, N = 643) = 746.03$, $CFI = .93$, $TLI = .92$, $RMSEA = .05$ ($CIs.04 - .05$), $SRMR = .03$, $AIC = 41351.81$] and for observer-ratings: [$\chi^2(297, N = 647) = 868.50$, $CFI = .96$, $TLI = .96$, $RMSEA = .05$ ($CIs.05 - .06$), $SRMR = .02$, $AIC = 41273.39$]. These results cross-validate the factor structure of the QueL and meet the prerequisite for assessing factorial invariance (Chen, 2007). Factorial invariance is a hierarchical analysis starting with configural invariance (Model 1), where factors and patterns of fixed and free parameters for both groups have the same number. Next, metric invariance implies equal factor loadings across groups (Model 2). Finally, scalar invariance signifies that constrains to factor loadings and item intercepts are imposed (Model 3). Measurement invariance is assessed by

changes in CFI ($\leq .01$), RMSEA ($\leq .02$) and SRMR ($\leq .03$), because these indices are insensitive to nonnormality and sample size (Chen, 2007; Cheung & Rensvold, 2002).

-----Table 4-----

An examination of the changes in the CFI, RMSEA, and SRMR values indicated small decrements across all compared models, suggesting that the QueL bifactor model exhibits configural, metric and scalar invariance across leader and follower samples (Table 4).

Study 4: Reliability of the QueL

In Study 4, we tested the internal consistency and the test-retest reliability of the QueL.

Sample and Procedure

Reliability analysis was based on the samples from Studies 3 and 5. The first sample consisted of 115 leaders (Study 5) and was used to examine the stability of the QueL over time (4 weeks interval). The second sample comprised of 1291 participants (leaders and followers participated in Study 3) and was used to examine the internal consistency of the QueL.

Results

Scholars argued that the alpha index provides less accurate degrees of confidence in the consistency of the administration of any measure and may cause problems associated with inflation and attenuation of internal consistency estimation (e.g., Dunn, Baguley, & Brunsten, 2014). Furthermore, it is based on the assumption of tau equivalency, which assumes that all factor loadings are equal, an assumption that is very difficult to meet in real research. Thus, next to alpha, we also calculated omega reliability, which overcomes certain problems intrinsic to the estimation of alpha and, hence, may be preferable when validating new scales (Raykov, 1998). For the QueL self-rating version omega reliability was $\omega_{QueL} = .96$ ($\omega_{Ethos} = .92$, $\omega_{Telos} = .95$, $p < .01$), and for the observer-rating version $\omega_{QueL} = .99$ ($\omega_{Ethos} = .97$, $\omega_{Telos} = .99$, $p < .01$). The self-rating QueL demonstrated excellent test-retest reliability $r_{QueL} = .82$ ($r_{Telos} = .81$, $r_{Ethos} = .80$, $p < .01$). For the QueL self-rating version alpha was $\alpha_{QueL} = .95$ ($\alpha_{Telos} = .93$, $\alpha_{Ethos} = .89$, $p < .01$) and for the observer-rating version $\alpha_{QueL} = .97$ ($\alpha_{Telos} = .98$, $\alpha_{Ethos} = .98$, $p < .01$).

Study 5: Validity of the QueL

To test concurrent validity, four different scales were used: the ELS (Brown et al., 2005), the ELW (Kalshoven et al., 2011a), the Behavioral Integrity measure (Simons, Friedman, Liu, & McLean Parks, 2007) and the Trust in Management scale (Cook & Wall, 1980). ELS and ELW were chosen because they are used extensively in the ethical leadership literature and have good psychometric properties (e.g., Frisch & Huppenbauer, 2014). Integrity and trust are central dimensions of ethical leadership and they are included in most ethical leadership frameworks (e.g., Kalshoven et al., 2011a). Since all four measures share common concepts regarding ethical leadership, we expected high positive correlations with the QueL.

Past research challenged that ethical leadership is conceptually distinct from alternative leadership styles. For example, transformational leaders are characterized by trust, teamwork and behavioral consistency (e.g., Bass & Steidlmeier, 1999), qualities that are shared with ethical leaders. Therefore, transformational leadership is expected to correlate positively with QueL. Likewise, transactional leaders conform towards a teleological approach regarding their rewarding system, provide feedback when necessary and are characterized by ethically rewarding attitudes (e.g., Bass & Avolio, 1997). Hence, transactional leadership was hypothesized to correlate positively with QueL. Laissez-faire leaders avoid leading, do not care or guide their followers and do not meet their occupational duties (e.g., Bass & Avolio, 1997). Laissez-faire leadership contrasts greatly to ethical leadership, which values altruism, equal opportunities for guidance and ethical decision-making. Therefore, we expected a negative correlation between these two concepts. Finally, abusive supervisors are markedly different from ethical leaders, as they display hostile verbal and non-verbal behaviors at work (e.g., Brown et al., 2005). In conclusion, we expect that the above-mentioned leadership styles are related, yet distinct from the concept of ethical leadership.

Numerous studies demonstrated that ethical leadership is associated positively with organizational commitment and ethical climate (EC) namely, beliefs about the deontological behaviors in organizations, which influences ethical decision-making and conduct (Bedi, Alpaslan,

& Green, 2016; Kalshoven et al., 2011a). Organizational Citizenship Behavior (OCB), namely the set of constructive and volitional behaviors intended to support and enhance a social and psychological context that promotes organizational goals (e.g., helping others) was also found to relate positively to ethical leadership (e.g., Kalshoven, et al., 2011a). To further support the convergent validity of QueL, we examined its relationship with work attitudes and behaviors. According to Stouten, van Djike, Mayer, De Cremer, and Euwema (2013) interpersonal and organizational deviance, which concerns voluntary behaviors that violate significant organizational norms and threatens the well-being of organizations and their members also stands in contrast with ethical leadership. Also, it is hypothesized that ethical leadership will relate negatively to followers' feelings of exhaustion and disengagement towards their job (i.e., burnout; Demerouti, Bakker, Vardakou, & Kantas, 2003); when followers discern deception, favoritism and dishonesty from their leaders, burnout is likely to occur.

Finally, to demonstrate divergent validity, we examined constructs that are theoretically unrelated to ethical leadership. Previous research suggests that personality, as a cluster of traits, is non-significantly related to ethical leadership (e.g., Kalshoven, Den Hartog, & De Hoogh, 2011b). Ethical leaders tend to behave ethically in a consistent, integer manner at work, regardless of their personality. In addition, research has revealed that gender and educational level are also unrelated to ethical leadership (e.g., Brown et al., 2005).

Sample and Procedure

To examine the validity of the QueL we used different samples from the personal network of the researchers and from organizations that volunteered to participate (same procedure as in Study 1). Using a sample of 314 followers (59% were women; mean age was 38.73, $SD = 9.86$; organizational tenure was 15.6, $SD = 8.93$) we examined how the QueL correlates with the ELW, ELS, and burnout. The second sample consisted of 110 followers (69% were women; mean age was 38.14, $SD = 10.71$; organizational tenure was 5.3, $SD = 5.1$) and was used to examine the correlations of QueL with integrity, trust, leadership and abusive supervision. The third sample

comprised of 115 leaders (52% were men; mean age was 41.64, $SD = 10.95$; organizational tenure was 9.15, $SD = 8.99$) and was used to examine how QueL correlates with OCB, EC, personality traits, gender, and education. Finally, the fourth sample consisted of 145 leaders (56% were men; mean age was 44.33, $SD = 12.8$; organizational tenure was 15.8, $SD = 8.63$) and was used to examine QueL correlations with deviance and commitment.

Measures

Ethical leadership. We assessed ethical leadership using the 27-item self-rating and observer-rating QueL. For the reliability of the QueL, please refer to Study 4. We also used the 38-item ELW (Kalshoven et al., 2011a) and the 10-item, unidimensional ELS (Brown et al., 2005). For the reliability indices of ELS and ELW, please refer to the Electronic Supplementary Material (ESM) 1 Table for details.

Leadership. To assess transformational, transactional, and laissez-faire leadership styles, we used the Greek version of the 36-item Multifactor Leadership Questionnaire (MLQ; Bass & Avolio, 1997). All scales were reliable (transformational leadership $\alpha = .96$; transactional leadership $\alpha = .68$; laissez-faire leadership $\alpha = .80$). Finally, Abusive Supervision was assessed with the unidimensional 15-item scale (Tepper, 2000).

Work-related attitudes and behaviors. Behavioural integrity was assessed with the 8-item unidimensional scale by Simmons et al. (2007). Trust in management was assessed with the 12-item two-dimensional scale by Cook and Wall (1980). Organizational commitment was assessed with the 9-item unidimensional Organizational Commitment Questionnaire (OCQ) developed by Mowday, Steers, and Porter (1979). OCB was assessed with the unidimensional 10-item Checklist (OCB-C; Spector, Bauer, & Fox, 2010). Burnout was measured with the Greek version of the 16-item Oldenburg Burnout Inventory (OLBI; Demerouti, et al., 2003), which measures Exhaustion and Disengagement. Interpersonal and organizational deviance was assessed with the 19-item Deviance Workplace Behaviour scale (Bennett & Robinson, 2000).

Ethical Climate. EC was assessed with the 7-item scale by Schwepker and Good (1999).

Personality. We used the 50-item Greek-validated Work Personality Inventory (WPI; Tsaousis, 2014) to measure the Big-five dimensions of personality within an organizational context. Internal consistencies were .84 for extraversion, .81 for emotional stability, .83 for openness to experience, .86 for agreeableness and .79 for conscientiousness.

Apart from the MLQ and OLBI, for which Greek translations were available and the WPI that was developed in Greek, all other measures were adapted to Greek. Adaptations were based on the committee translation process (Harkness, & Schoua-Glusberg, 1998). Three bilingual experts translated the original measures into Greek with the translations subsequently re-evaluated by one additional bilingual expert, who acted as verifier. Factor structures and internal consistencies of all scales in Greek were evaluated using CFAs. Almost all scales showed adequate fit, as well as acceptable reliability values (for the detailed output, please refer to ESM 1 and ESM 2).

Results

Validation analyses confirmed all hypothesized correlations. The QueL within-factor correlations were very high to all samples ($.85 > r_{\text{telos-ethos}} > .93, p < .01$). Relative to concurrent validity, we found that observer-ratings of the QueL overall score and subscales correlated positively and highly with the ELS, ELW, Behavioral Integrity, and Trust in Management scales (Table 5).

-----Table 5-----

Due to the high correlation between ELS and QueL, a question may be raised about the distinctiveness of these concepts. Hence, structural equation modeling was applied to examine the link of ethical leadership scales (ELS and QueL) with their proposed outcome (burnout) after controlling for the covariance between the two ethical leadership measures. We examined two different models: in the first model we fixed the covariances between the two ethical scales to 1, assuming that both scales are not conceptually differentiated. In the second model, we let the covariances between the two ethical scales to vary freely, assuming that both scales tap different characteristics of the construct, and thus are distinct from one another. The results indicated that the

model with no covariances constrains [$\chi^2(24, N = 314) = 121.64, RMSEA = .114, SRMR = .016$] provided a better fit than the model assumed that both ethical scales are conceptually identical [$\chi^2(25, N = 314) = 561.02, RMSEA = .261, SRMR = .063$] ($\Delta\chi^2 = 439.38, p < .001$), suggesting that although the QueL and the ELS are related to some extent, are yet distinct to each other.

In terms of convergent validity, the QueL was found to correlate positively to transformational leadership ($r = .84$), transactional leadership ($r = .40$) and negatively to laissez-fair leadership ($r = -.56$) and abusive supervision ($r = -.51$). Because transformational and ethical leadership were highly correlated, to support their distinctiveness, we compared two models: a) a two-factor model, where one factor was the transformational leadership (idealized influence, intellectual stimulation, inspirational motivation, individual consideration were observed variables) and the other was the ethical leadership (ethos and telos were observed variables), and b) a one-factor model, where all observed variables defining one single latent factor. Results showed that the two-factor model [$\chi^2(8, N = 110) = 14.10, CFI = .99, TLI = .98, RMSEA = .08, SRMR = .01$] provided better fit than the one-factor model [$\chi^2(9, N = 110) = 114.01, CFI = .88, TLI = .89, RMSEA = .32, SRMR = .04$] [$\Delta\chi^2(1, N = 110) = 99.3, p < .001$]. To further assess the incremental validity of the QueL over and above transformational leadership, we run two-step hierarchical regression analyses with integrity, trust and abusive supervision as outcome variables. As shown on Table 6, QueL explained an additional 11% of the variance in integrity, 3% of the variance in trust and 2% of the variance in abusive supervision over and above transformational leadership.

-----Table 6-----

Furthermore, the QueL moderately correlated with ethical climate ($r = .41$), organizational citizenship behaviors ($r = .39$) and Commitment ($r = .59$) in the expected direction. Also, the QueL correlated negatively to burnout [exhaustion ($r = -.42$), disengagement ($r = -.46$)], organizational ($r = -.76$) and interpersonal deviance ($r = -.76$). All correlations were significant at $p < .01$. Finally, in terms of divergent validity the QueL did not correlate significantly with leader's personality, gender

and educational level. For a detailed report on the general and sub-factor correlations, please refer to the Electronic Supplementary Material (ESM) 3 Table.

Discussion

Our paper had two aims: to contribute theoretically in redefining the framework of ethical leadership and to develop and evaluate a scale for assessing the concept based on sound psychometric principles. In pursuit of the first aim, a new theoretical framework comprising 27 dimensions of ethical leadership was empirically examined. CFA's supported the joint functioning of a general factor and two specific constructs named 'Telos' (which refers to ethical behaviors, ethical strategies and ethical visions) and 'Ethos' (pertaining to leaders' ethical character and ethical virtues). This bifactor model provides a more parsimonious explanation of ethical leadership, which is consistent with Brown et al. (2005) initial conceptualization of a general-ethical leadership perspective, since the general factor accounted for the majority of variance in the first-order factors. However, the bifactor solution allows the evaluation of its group dimensions' unique contribution to ethical leadership prediction after controlling for the general factor. Hence, statistical support was found for the first-order factors of ethical leadership, which conforms to Treviño's et al. (2003) theoretical model of 'moral manager' and 'moral person'. In general, results indicated that ethical leadership is a more complicated construct than originally expected; leaders cannot be perceived as ethical unless they conjointly display ethical practice and ethical character at work.

In pursuit of the second aim, we provided evidence to support the psychometric robustness of the QueL, following a systematic process using multiple independent samples of leaders and followers. QueL was significantly related, yet distinct, to ethical leadership integrity and trust, confirming its concurrent validity. It was also demonstrated that QueL exhibits convergent validity; positive correlations were found with transformational leadership, transactional leadership, ethical climate, citizenship behaviours and followers' commitment; negative correlations were found with laissez-faire leadership, interpersonal - organizational deviant behaviors and abusive supervision. Moreover, it was found that QueL exhibits discriminant validity against other ethical scales (e.g.,

ELS). Our results further supported the incremental validity of the QueL over and above transformational leadership in explaining integrity, trust and abusive supervision. These results are in line with previous findings (e.g., Kalshoven et al., 2011a) suggesting that ethical leadership is conceptually related yet distinct to those attitudes and behaviors as predicted. Moreover, the QueL showed non-significant correlations with leaders' gender, education level, and personality, highlighting that leaders may be considered ethical regardless of these factors. These results are in line with previous studies using different leadership scales and operationalizations (e.g., Kalshoven et al. 2011b). Finally, we examined the measurement invariance of QueL across self- (leaders) and other- (followers) ratings. Our results supported the configural, metric, and scalar invariance of the bifactor model signifying that our bifactor ethical leadership framework is perceived similarly by both leader and follower samples.

Our research adds to the literature on ethical leadership and burnout. Results indicated that QueL is related negatively to exhaustion and disengagement at work. When leaders are perceived as honorable, honest, true to their occupational duties and express a genuine concern for others, their followers are less likely to feel exhausted or disengaged from their work. Results from the examination of the internal consistency of the QueL showed that all items measure the same construct (for both rating versions). Finally, QueL demonstrated strong test-retest reliability after a four-week interval.

Although the QueL has important implications for research and practice, our study has limitations. First, all studies reported have been conducted in Greece. Therefore, replication of findings of QueL in different cultures and occupational settings is necessary. Another limitation is the use of the snowball method and convenience samples that are characterized by insufficient power to identify differences of population subgroups. Also, our sampling strategy did not allow collecting information that would permit accounting for the multilevel structure of our data (i.e., employees nested in leaders nested in organizations). Finally, social desirability might have affected our analyses, since self-rating measures were mainly used. However, correlation patterns with other

variables ranged systematically in magnitude and direction for both self- and observer-rating QueL, suggesting that common method variance possibly didn't affect the way dimensions were related to outcome variables.

Although our results are promising, more research is needed to further support the psychometric qualities of the QueL by: a) using representative samples, b) accounting for the multilevel structure of the investigated phenomenon, c) examining invariance and latent mean differences across matched groups of leaders and followers, and d) investigating the incremental validity of QueL, over and above other ethical leadership measures in explaining criteria of relevance. To conclude, the QueL exhibits robust psychometric characteristics and can be used for developing the construct's nomological network and for a range of practical applications, such as personnel selection, career promotions and identification of training needs, regarding ethical behaviors and attitudes at work.

Electronic Supplementary Materials

ESM 1. Table (docx).

Table reporting CFA fit indices for all measures adapted to Greek for Study 5.

ESM 2. Table (docx.).

Table reporting omega and alpha reliability indices for all measures adapted to Greek for Study 5.

ESM 3. Table (docx).

Table reporting all correlations of Study 5.

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Table 1*Description of the 27 Ethical Leadership Dimensions.*

| Dimension | Description |
|--|--|
| Honesty | Fair, rightful and following ethical decision standards. |
| Sincerity | Truthful; never uses or allows lying. |
| Integrity | Shows integrity and consistency in ethical behaviors. |
| Reward of ethical behavior | Recognizes, reinforces and rewards ethical initiatives and behaviors from followers. |
| Altruism | Expresses true concern and respect for others; sacrifices his/her personal interest. |
| Ethical strategy | Organizes and implements a clear ethical plan for managing work issues. |
| Clarification of ethical role | Elucidates ethical obligations to followers in a transparent way. |
| Ethical behavior role-model | She/he is an ethical example at work, systematically. |
| Humility | Lacks vanity and does not boast about personal work accomplishments. |
| Application of ‘green policies’ | Consistently adopts environmental-friendly strategies. |
| Ethical Self-control | Controls personal desires and emotions at work; shows character. |
| Ethical vision | Inspires followers towards a common ethical vision for the general benefit. |
| Ethical responsibility | Accepts consequences of his/her actions and prompts followers to take responsibility of their actions. |
| Ethical vigilance | Engages employees to the organization’s ethical standards. |
| Ethical possibility | Acknowledges opportunities provided for achieving ethical goals at work. |
| Development of ethical vision | Prioritizes the implementation of the ethical vision by assigning ethical goals. |
| Power distribution | Provides opportunities for participating in organizational decision-making. |
| Ethical culture | Directs the organization towards more ethical values, norms and beliefs. |
| Ethical encouragement | Supports and provides equal opportunities for development. |
| Forwarding ethical training | Provides educational opportunities to followers; promotes ethical behaviors at work. |
| Ethical determination | Shows effective decision-making regarding ethical dilemmas. |
| Collaboration | Promotes team work; Aims to resolve conflicts in a fair manner. |
| Ethical evaluation | Provides feedback to followers about their ethical work practices. |
| Ethical influence of Stakeholders | Collaborates with stakeholders on ethical decision-making. |
| Trust | Is liable and trustworthy. |
| Ethical insight | Monitors followers and prevents behaviors that are ethically unaccepted. |
| Ethical guidance | Rewards and/or punishes (un)ethical behaviors at work. |

Note. Based on Mitropoulou et al., 2014.

Table 2*Descriptives and Factor Loadings (N = 258 leaders).*

| | Mean | SD | Factor loadings | |
|-----------------------------------|------|------|-----------------|------------|
| | | | Telos | Ethos |
| Ethical Culture | 5.17 | .99 | .99 | -.19 |
| Ethical Guidance | 5.24 | .96 | .91 | -.15 |
| Ethical Insight | 4.94 | 1.01 | .77 | -.03 |
| Application of 'green' policies | 5.09 | 1.07 | .75 | -.15 |
| Ethical Evaluation | 5.05 | 1.02 | .74 | .10 |
| Forwarding ethical training | 5.14 | 1.00 | .70 | .07 |
| Ethical Encouragement | 5.07 | 1.06 | .70 | .12 |
| Development of Ethical Vision | 5.11 | .99 | .68 | .12 |
| Ethical Influence of Stakeholders | 5.08 | 1.06 | .67 | .05 |
| Ethical Determination | 4.80 | 1.03 | .63 | .18 |
| Clarification of Ethical Roles | 5.00 | 1.08 | .57 | .28 |
| Ethical Vision | 4.93 | 1.08 | .56 | .32 |
| Ethical Possibility | 5.03 | 1.17 | .55 | .32 |
| Ethical Strategy | 5.22 | .89 | .52 | .31 |
| Ethical Vigilance | 5.19 | .98 | .48 | .33 |
| Ethical Self-control | 4.94 | 1.14 | .45 | .43 |
| Ethical Responsibility | 4.62 | 1.36 | .06 | .82 |
| Honesty | 5.09 | 1.05 | .05 | .80 |
| Trust | 5.04 | 1.00 | .02 | .79 |
| Integrity | 4.74 | 1.20 | -.24 | .76 |
| Reward of Ethical Behavior | 5.21 | 1.00 | .05 | .73 |
| Humility | 5.25 | .95 | .18 | .72 |
| Sincerity | 5.20 | 1.06 | .09 | .71 |
| Altruism | 4.83 | 1.17 | .30 | .54 |
| Collaboration | 5.20 | 1.01 | .30 | .54 |
| Power Distribution | 5.34 | .92 | .22 | .49 |
| Ethical Behavior role-model | 4.98 | 1.12 | .34 | .41 |

Table 3*Comparison of Alternative Factor Structures.*

| | χ^2 | <i>df</i> | CFI | TLI | RMSEA | <i>RMSEA 90% CI</i> | SRMR | AIC |
|---------|----------|-----------|-----|-----|-------|---------------------|------|----------|
| Model 1 | 717.41 | 324 | .86 | .85 | .058 | .05 - 0.6 | .055 | 24461.91 |
| Model 2 | 645.47 | 323 | .89 | .88 | .052 | .04 - .05 | .054 | 24321.94 |
| Model 3 | 884.31 | 323 | .86 | .85 | .067 | .06 - .07 | .056 | 24801.39 |
| Model 4 | 1018.3 | 324 | .76 | .74 | .077 | .07 - .08 | .290 | 24802.60 |
| Model 5 | 508.06 | 297 | .93 | .91 | .044 | .03 - .05 | .043 | 24182.47 |

Note. *N* = 386 Leaders, Model 1 = One-factor, Model 2 = Two-factor, Model 3 = Identical to Model 2 with Ethical self-control loading on factor 'Ethos' instead of factor 'Telos', Model 4 = Hierarchical, Model 5 = Bifactor.

CFI = Comparative Fit Index; *TLI* = Tucker-Lewis Index; *RMSEA* = Root Mean Square Error of Approximation; *90% CI* = Confidence Intervals, *SRMR* = Standardized Root Mean Square Residual; *AIC* = Akaike Information Criterion.

Table 4*Factorial Invariance across Leaders (N = 648) and Followers (N = 643).*

| Model | χ^2 | <i>df</i> | CFI | TLI | RMSEA | SRMR | Model comparison | Δ RMSEA | Δ CFI | Δ SRMR |
|---------------------|----------|-----------|------|------|-------|------|------------------|----------------|--------------|---------------|
| Model 1 -Configural | 1687.95 | 594 | .951 | .942 | .053 | .030 | - | - | - | - |
| Model 2 - Metric | 1866.38 | 645 | .946 | .941 | .054 | .055 | 2 vs. 1 | .001 | .005 | .025 |
| Model 3 -Scalar | 1984.04 | 669 | .941 | .939 | .055 | .059 | 3 vs. 2 | .001 | .005 | .004 |

Note. $p < .001$.

Table 5

Concurrent Validity Evidence.

| Variable | Mean | SD | α | Ethos | Telos | Overall |
|---|------|------|----------|-------|-------|---------|
| ELS ^a | 3.5 | .83 | .92 | .82* | .80* | .82* |
| ELW People orientation ^a | 3.24 | .95 | .93 | .69* | .69* | .71* |
| ELW Fairness ^a | 2.42 | .89 | .85 | .57* | .63* | .61* |
| ELW Power sharing ^a | 3.09 | .58 | .56 | .43* | .45* | .45* |
| ELW Concern sustainability ^a | 3.43 | .93 | .81 | .65* | .55* | .61* |
| ELW Ethical guidance ^a | 3.46 | .83 | .91 | .77* | .68* | .74* |
| ELW Role clarification ^a | 3.52 | .80 | .88 | .62* | .52* | .58* |
| ELW Integrity ^a | 3.52 | 1.09 | .96 | .79* | .85* | .84* |
| Behavioral Integrity ^b | 3.67 | 1.17 | .97 | .83* | .81* | .83* |
| Trust Management ^b | 3.78 | 1.27 | .85 | .65* | .66* | .67* |

Note. a = 314 followers; b = 110 followers.

* $p < .01$

Table 6

Regression Analyses Summary.

| Variable | Integrity | | | | Abusive Supervision | | | | Trust | | | |
|-----------------------------|--------------------|--------------|--------|---------|---------------------|--------------|--------|---------|--------------------|--------------|--------|---------|
| | Adj R ² | ΔR^2 | F | β | Adj R ² | ΔR^2 | F | β | Adj R ² | ΔR^2 | F | β |
| Step 1 | .60* | .60* | 163.2* | | .24* | .24* | 35.29* | | .44* | .44* | 85.00* | |
| Transformational leadership | | | | .77* | | | | -.50* | | | | .65* |
| Step 2 | .71 | .71 | 39.50 | | .26** | .27** | 3.80** | | .48* | .47* | 6.70* | |
| Transformational leadership | | | | .26 | | | | -.24 | | | | .38* |
| QueL | | | | .60 | | | | -.30** | | | | .34* |

Note. N = 110 followers (Control variable Transformational leadership); * $p < .01$, ** $p < .05$