Validating the protean and boundaryless career attitudes scales with Filipino young adults

Allan B. I. Bernardo1,2* and Maria Guadalupe C. Salanga1

Abstract: The protean and boundaryless career attitudes are concepts that are increasingly relevant as the nature of work and careers are transformed by economic growth, globalization, and technology. These career attitudes that emphasize the individual’s identity and values in career management have not been studied in the Philippine context, even as the economic growth creates new types of jobs and instability in the Philippine labor market. The study validates a well-known protean and boundaryless career attitudes scale, with the view of providing a useful measure to explore these career attitudes in the Philippines. Data from 669 young adults were used to test the structural validity of the four-factor structure of the scale. Confirmatory factor analysis indicated good fit between the four-factor structure and the data, and the four subscales showed good internal consistency. Evidence for the scales’ construct validity was also shown in their relationship with measures of career adaptability, career optimism, perceived career knowledge, and cultural intelligence. Limitations of the study are discussed, but the results point to the growing evidence for the validity and utility of the protean and boundaryless career attitudes in different parts of the world.

ABOUT THE AUTHORS

Allan B.I. Bernardo is Distinguished University Professor at De La Salle University, Philippines. His research focuses on three themes: lay theories and intergroup relations; cultural aspects of hope, positive strengths, and well-being; and social cognitive processes related to socioeconomic differences, inequality, and mobility. Part of the third research theme, this validation study is the first phase of studies exploring factors related to self-initiated expatriation for socioeconomic mobility. He holds a PhD (Psychology) from Yale University.

Maria Guadalupe C. Salanga is an Associate Professor at the Department of Psychology in De La Salle University – Manila. She received the Outstanding Young Scientist 2019 award for her contribution to the field of Counseling Psychology from the National Academy of Science and Technology of the Department of Science and Technology. Her work in social psychology and educational psychology brings to view the individual and cultural aspects of learning, emotions, and social relations.

PUBLIC INTEREST STATEMENT

Careers have become less stable, particularly in emerging economies like the Philippines where the types of jobs and job arrangement are constantly changing. Protean and boundaryless career concepts have been proposed as models of career management in such contexts, with the Protean and Boundaryless Career Orientation Scales developed for that purpose. But some scholars have questioned the appropriateness and validity of such models in non-Western context. This study validates the said scales in a sample of Filipino young adults. The results indicate that the four-factor structure of the scale is valid and adequately measures the dimensions of protean and boundaryless career attitudes. The scales are also associated with work effectiveness measures including career adaptability and cultural intelligence, suggesting the applicability of the protean and boundaryless career models to Filipinos. The results point to the usefulness of the scale in further understanding career management in the Philippines.
Careers have become less stable, linear, and bound to organizational hierarchies due to increasing globalization, use of technology in various economic sectors, among other factors (Greenhaus, Callanan, & Godshalk, 2009). This is particularly true in emerging markets like the Philippines, where economic growth creates new types of jobs and work arrangements (Kim, Torneo, & Yang, 2019) and where exporting labor is a continuing policy that also requires proactiveness and adaptability on the part of workers (Ortiga, 2018). These changes have led to proposals of career development models that emphasize the need for individuals to be flexible, adaptable, and more autonomous in managing their careers (Savickas, 2011). The concepts of Protean and boundaryless careers have been proposed to capture the career mindsets and attitudes of individuals who define their personal career goals and values, who are proactive in career decision and actions, and who adapt to changing career environments in pursuit of intrinsic goals (Briscoe & Hall, 2006). In theory, these career attitudes could be applied to describe and understand the career-related attitudes of Filipino workers who wish to effectively manage their career development. But previous research on Filipino’s career development suggests that instead of personal professional development and actualization, objective economic rewards and the influence of the family are the key themes in describing Filipinos’ career decision making (Garcia, Restubog, Toledano, Tolentino, & Rafferty, 2012; Salazar-Clemeña, 2002). The goal of the study is to validate the Protean and boundaryless career scales (Briscoe, Hall, & DeMuth, 2006) first by testing the structural validity of the scales, and then assessing the construct validity by exploring the scales’ relationship with career adaptability measures.

1. Protean and boundaryless career attitudes

Traditional career models have focused on the work organization, its structures, and hierarchy in guiding the individual’s vocational behaviors. Career success is measured by advancement in the organization and the monetary gains that come with it. There is the expectation that the individual would be committed to the organization that provides opportunities for development professionally and monetarily (Hall, 2004). More contemporary approaches to understanding vocational behaviors as expressions of personal identity and adaptability (McArdle, Waters, Briscoe & Hall, 2017). Two broad career-related concepts capture related themes in these contemporary approaches—the protean careers and boundaryless careers—and we elaborate on these two concepts in this section.

The protean career emphasizes the use of one’s personal values and self-direction in managing career development. Vocational behaviors emphasize a high degree of flexibility and mobility, with the protean careerist seeking freedom and aiming to attain work satisfaction and professional development direction with reference to personal identity and values (Briscoe et al., 2006). A protean career orientation has been conceptualized as comprising two related attitudes: self-directed career management and values-based decision-making. The self-directed career management attitude expresses a sense of autonomy and awareness of the freedom to choose one’s career path without being tied down by the constraints of an organization’s hierarchical structure. The values-driven attitude expresses an intention to make career decisions based on one’s conscience, personal preferences, and values, instead of external and organizational values. Protean career concepts do not imply a specific set of behaviors; instead they indicate an attitude toward the career that reflect the expression of one’s values, identity, and autonomy.

The boundaryless career orientation is an independent but associated concept from the protean career. It emphasizes opportunities across organizational boundaries (DeFilippi & Arthur, 1996), wherein an individual with a boundaryless career orientation goes beyond the confines of the organization and its hierarchy to seek vocational success. One may move from one organization to
another, or move from one level of the hierarchy to another (Guan, Arthur, Khapova, Hall, & Lord, 2019). This orientation has two dimensions: physical mobility and psychological mobility. Physical mobility refers to the individual’s preference for movement between and across organizations and even industries. Moving from one country to another for employment reasons and changes in employment patterns (self-employed, part-time) are also part of this dimension. The psychological dimension captures the individual’s attitudes towards building and maintaining work-related relationships beyond one’s work organization (Sullivan & Arthur, 2006).

The protean and boundaryless career orientations are related in their focus on the individual as an active agent in her/his career success, and in their lack of emphasis on career advancement within one’s organizational structures. The protean career attitudes contrast with organization-based career models in their emphasis on personal values and self-direction, while boundaryless career attitudes contrast focus on relationships and opportunities for mobility beyond the organization. As such, in cases when work environments bring uncertainty, these career orientations help the individual cope, seek external support and use active coping skills (Briscoe, Henagan, Burton, & Murphy, 2012) including activities during unemployment and reemployment (Waters, Briscoe, Hall, & Wang, 2014). In addition, both orientations have been found to predict career adaptability (Chan et al., 2015) and feelings of career success and accomplishment (Enache, Sallan, Simo, & Fernandez, 2011). A boundaryless career orientation is associated with objective career success (i.e. annual salary, number of promotions; Volmer & Spurk, 2011) and other career growth processes and outcomes (see Guan et al., 2019, for review). A protean career orientation is related to career satisfaction, job satisfaction, work engagement, and career planning (Grimland, Vigoda-Gadot, & Baruch, 2012; Herrmann, Hirschi, & Baruch, 2015). Many of these studies have used validated measures, and in particular, the Protean and Boundaryless Career Attitudes Scale (Briscoe et al., 2006).

The relevance of the protean and boundaryless career attitudes relates to the growing need to rethink career development models as the world of work changes. The need to anticipate, adjust, and be autonomous is increasingly necessary to prepare a generation to their careers (Hirschi, 2018). But there are likely to be cultural variations in how these specific career attitudes are endorsed. For example, protean and boundaryless career orientations may thrive in cultures that endorse collectivism and are low in power distance (Segers, Inceoglu, Vloeberghs, Bartram, & Henderickx, 2008), while some Asian scholars have questioned the applicability of the protean and boundaryless career concepts in Asian societies (Gao, Ma, & Tan, 2018; Zhao, 2007). As such, there is a need to explore the validity of the concepts and the measures in different cultural and work contexts.

2. Careers in the Philippine context
As the Philippine economy grows, the unemployment rate and other related indices (i.e. underemployment rate, visible underemployment rate) continue to decline at a slow pace (Philippine Statistics Office, July 2018). The employment data for 2018 indicates that most of the jobs come from the services sector (i.e. wholesale and retail trade, transportation and storage, education). In terms of occupation, the largest number of individuals in the labor force are employed in elementary occupations (e.g. selling goods on the street, construction and manufacturing, packing things by hand, freight handling; International Labor Organization, 2004). With the advancement of technology and automation, many jobs in this category that require routine tasks are likely to be affected. Individuals who may be displaced from these jobs will have limited employment opportunities. Economic trends in the Philippines and other countries experiencing economic growth (e.g. Malaysia and India) suggest that technical occupations will require workers to develop more complex skills negotiating and planning with teams, solving cognitive tasks, and intensively using information and communication technology (Chhichhia et al., 2018). These trends indicate that individuals will need to be adaptive not only to gain employment but also in managing their professional careers.

The changes in the labor market has had an impact on careers of young adults and their judgments about work (Johnson & Monsrud, 2010) towards career attitudes that emphasize personal identity and adaptability (McArdle et al., 2017). But previous research on career decisions
of Filipino workers do not seem to indicate the role of such personal factors. Instead, external economic considerations that reference family needs play a major role in the career choices adolescents make. The desire to provide financial assistance seems to be primarily in consideration of one’s family and the goal to improve the family’s financial status (Salazar-Clemeña, 2002). The family is a strong influence in career decisions of many Filipino individuals, who follow their parents’ wishes in the choice of profession to study in university, their parents’ push for higher paying and prestigious careers, and even which jobs to apply for and so on (Garcia et al., 2012; Primavera et al., 2010; Salazar-Clemeña, 2002). Even when currently employed, family-related needs are said to motivate Filipino workers in their careers (Ilagan, Hechanova, Co, & Pleyto, 2014). These previous studies do not indicate career attitudes and decisions that reflect an emphasis on personal identity, values, and adaptability in one’s career development. But neither do they indicate a strong reference to organizational structures and organizational advancement in the career decisions. So whether or not protean and/or boundaryless career attitudes factor in the career management of Filipino workers is still unknown.

Partly the reason might be that researchers on Filipino career-related processes have focused on different constructs and measures. For example, studies on career attitudes in the Philippines have used measures that vary in focus, from adaptation, efficacy, to decidedness. The Career Adapt-Abilities Scale (Savickas & Porfeli, 2012) in studies on career adaptability (Garcia, Restubog, Ocampo, Wang, & Tang, 2019; Talented, Garcia, Restubog, Bordia, & Tang, 2013), Career Commitment Measurement (Carson & Bedeian, 1994, in a study on nurses’ motivations), and Career Decision-Making Self-Efficacy Scale (Betz, Klein, & Taylor, 1996) and career decidedness (Lounsbury, Hutchens, & Loveland, 2005) on a study about their mediating effects on contextual support and persistence (Restubog, Florentino, & Garcia, 2010). In this regard, it would be helpful to validate the protean and boundaryless career attitudes measures (Briscoe et al., 2006), with the view of using it in future studies that would help understand career decision making and management in Filipinos.

3. The current study
The aim of the current study is to examine the factor structure, its relationship with similar constructs, and psychometric properties of the protean and boundaryless career scales in young Filipino adults. We note that translations and adaptations of the protean and boundaryless career scales have been previously made and validated in Spanish (Enache et al., 2011), Italian (Presti, Nonnis, & Briscoe, 2011), French (Stauffer, Abessolo, Zecca, & Rossier, 2019), German (Herrmann et al., 2015), Hebrew (Kaspi-Baruch, 2016), Farsi (Rastgar, Ebrahimi, & Hessan, 2014), and Korean (Porter, Woo, & Tak, 2016) (and also two of the scales in Turkish, Çakmak-Otluoğlu, 2012). Even as the validity of the scales seems to have been quite well-established, we believe that it still be relevant to assess the validity with a Philippine sample. In line with general criticisms of how psychological data has been overwhelmingly drawn from samples that are western, educated, industrialized, rich, and democratic (or WEIRD) and calls to broaden data sources to test the universal generalizability of psychological theories, tools, and interventions (Henrich, Heine, & Norenzayan, 2010). Indeed, most of the validation studies have been conducted with western and/or industrialized societies, and in this regard, validating with a sample from the Philippines, which is non-western, non-industrialized, and non-rich should help strengthen the claims of the universality of the concepts and their measure.

Moreover, concerns about the universality of psychological data is likely to be stronger when using self-report data (Rochat, 2010), as even the factor structure of well-establish psychological measures like popular personality tests are not always validating across different cultures (see e.g., Gurven, Von Rueden, Massenkkof, Kaplan, & Lero Vie, 2013). Indeed, there have been several published studies showing that the structure of psychological scales in English were not validated with Filipino samples. For example, Dela Rosa (2010) found only three factors in what was supposed to be a four-factor motivation scale. Similarly, Bernardo (2008b) found only two factors in what was supposed to be a four-factor beliefs scale, whereas Datu, (2015) found a two-factor structure for what was supposed to be a three-factor self-construal scale. In one
case, what was supposed to be a one-factor scale, was found to have a good fit with a two- and three-factor structure (Ganotice & King, 2014). In other cases, the higher order constructs/factors of the psychological scales were found to differ with Filipino samples (see e.g., Bernardo, 2001; Bernardo, Zhang, & Callueng, 2002; Datu, King, & Valdez, 2016). All the scales in these earlier studies were scales that have been validated in other cultures, and thus, it may not be safe to simply assume that a well-known scale will be valid with Filipino samples. Indeed, establishing the structural validity of the protean and boundaryless career attitudes scales with Filipinos would not only extend the utility of the scale to Filipino samples, but also contribute to broadening research on career management and development in the Philippines.

In line with this broad objective, the first aim of the study is to establish the structural validity of the protean and boundaryless career attitudes scales (Briscoe et al., 2006). The two scales, have two subscales each, indicating a four-factor model. In particular, the self-directed career management attitudes and values-driven career attitudes subscales comprise the protean career attitudes scale, whereas the boundaryless mindset and the organizational mobility preference subscales comprise the boundaryless career attitudes scale. To establish the structural validity, we utilize confirmatory factor analysis procedures to assess whether there is a good fit between the four-factor structure and the data from the participants, or whether there is a better fit between a two-factor structure (protean and boundaryless, without differentiating the subscales) or a one-factor structure (all attitudes form one factor) and the data. We then examine the internal consistency (Cronbach’s $\alpha$) of whatever factors are validated in this analytic procedure.

After doing the confirmatory factor analysis, we examine the construct validity of the scales by examining their relationship with other career- or work-related constructs. First, we consider different career-related constructs in the Career Futures Inventory (Rottinghaus, Day, & Borgen, 2005): career adaptability, career optimism, and perceived knowledge about careers. Then we consider cultural intelligence (Earley & Ang, 2003), a measure of one’s ability to adapt and function effectively in intercultural environments. We hypothesize different patterns of relationships with these other constructs based on previous theoretical and empirical findings related to the protean and boundaryless career attitudes scales.

All scales of the Career Futures Inventory indicate a positive orientation towards one’s future career (Rottinghaus et al., 2005). Career adaptability refers to one’s perceived ability to cope with and take advantage of changes in environment, and also to adjust to new responsibilities and recover from unexpected events, whereas career optimism refers to a general positive expectation related to future career plans, decisions, and growth. On the other hand, perceived knowledge refers to one’s assessment of one’s ability to understand employment trends in the environment. We hypothesize that the boundaryless orientation would be strongly associated with all these constructs assessed by the Career Futures Inventory, because both the psychological and physical aspects of boundaryless attitudes indicate an inclination and also agency to take advantage of opportunities in the broader environment (i.e., beyond one’s organization) related to one’s work. This proposition has been verified in previous empirical studies (see e.g., Chan et al., 2015; Guan, Yang, Zhou, Tian, & Eves, 2016; Stoltz, Wolff, Monroe, Mazahreh, & Farris, 2013). The protean attitudes also express agency, however, we predict that the value-driven subscale may not be associated with career futures subscales, as one’s values might make the individual somewhat rigid and less adaptable and positively disposed to changes in the future work environment (Briscoe & Hall, 2006). On the other hand, the self-directed management of career attitudes is consistent with the positive and proactive dimensions of the career futures subscales.

Unlike the career futures inventory subscales, cultural intelligence refers to a narrower set of abilities that apply to working in situations characterized by cultural diversity (Earley & Ang, 2003). Yet, it also indicates dispositions, motivations, and strategies that relate to adapting to and engaging diverse experiences, and has been shown to be an important predictor of adaptability in work-related cross-cultural adjustment and adaptation (Chen, Wu, & Bian, 2014; Huff, Song, &
Gresch, 2014; Lee, Veasna, & Sukoco, 2014) and effectiveness (Korzilius, Bucker, & Beerlage, 2017; Lee et al., 2014; Presbitero, 2017). Although narrower in scope than the career futures scales, we propose the same hypotheses related to the four protean and boundaryless career subscales, although we are mindful that adapting to other cultures is a more demanding form of adjustment that career adjustments within one’s own culture.

We test these hypotheses in a sample of Filipino university students who are preparing to start their professional careers but who are not actually working professionally. As the protean and boundaryless career scales are also intended to be used for career counseling, validating with a university student population is not inappropriate. In fact, the original scales were developed and validated using samples that included university students (Briscoe et al., 2006), and several other studies inquiring on protean and boundaryless career concepts also use university student samples (see e.g., Chan et al., 2015; Kaspi-Baruch, 2016; Stauffer et al., 2019).

4. Method

4.1. Participants and procedures
Six hundred sixty-nine university students (308 male) participated in the study, with ages ranging from 18 to 25 ($M = 19.57$, $SD = 1.20$). As the participants were not currently working, some items that referred to current career experiences were revised to state future career experience; for example, the item “I navigate my own career, based on my personal priorities, as opposed to my employer’s priorities” was revised as follows, “I will navigate my own career, based on my personal priorities, as opposed to my future employer’s priorities.” Participants were recruited through different classes in a university in Manila. They were first informed about the nature of the study and asked if they were willing to give their informed consent to participate. Only those who signed the informed consent forms were given the survey questionnaire, which presented the various measures in the same order as described below. Those who completed the survey were given extra credit in their class.

4.2. Instruments
All the measures used were in English. University students in the Philippines are expected to have completed a minimum of 10 years of English language education and to pass English proficiency exams for admission into university (Bernardo, 2007). These English proficiency-related requirements are in line with expectations that university graduates are competent in the language used in many of domains of professional work in the Philippines (Gonzalez, 2004).

4.2.1. Protean career attitudes scale
(Briscoe & Hall, 2006; Briscoe et al., 2006). The scale consisted of 14 items that measured the two subfactors of protean career attitudes: self-directed career attitude (8 items, sample: “Freedom to choose my own career path is one of my most important values.”) and values driven career attitude (6 items, sample: “I’ll follow my own conscience if my company asks me to do something that goes against my values.”). Participants were asked to decide whether the items described themselves using a scale from 1 (to little or no extent) to 5 (to a great extent).

4.2.2. Boundaryless career attitudes scale
(Briscoe et al., 2006). The scale consisted of 13 items measuring two subfactors: boundaryless mindset (8 items, sample: “I will enjoy working with people outside of my organization.”) and organizational mobility preference (5 items, sample: “In my ideal career, I would work for only one organization” [reverse coded]). Similar to the previous scale, participants were asked to decide whether the items described themselves using a scale from 1 (to little or no extent) to 5 (to a great extent).

4.2.3. Cultural intelligence scale
(Van Dyne, Ang, & Koh, 2008). The scale consisted of 20 that represent four subscales, but for purposes of the current study, only the total score was considered consistent with previous research that uses the total scores to assess cultural intelligence (e.g., Groves, Feyerherm, & Gu,
2015; Jyoti & Kour, 2015; Korzilius et al., 2017; Presbitero, 2016). Samples items are: “I know the cultural values and religious beliefs of other cultures” and “I change my non-verbal behaviors when a cross-cultural interaction requires it.” Among all the measures, this is the only one that has been more extensively studies using Filipino samples (e.g., Bernardo & Presbitero, 2017, 2018; Presbitero & Quita, 2017) and it has been shown to have good psychometric properties in previous studies with university students. Participants indicated the strength of their agreement with each statement using a scale from 1 (strongly disagree) to 5 (strongly agree).

4.2.4. Career future inventory
(Rottinghaus et al., 2005). The scale consisted of 25 items measuring three subfactors: career adaptability (11 items, sample: “I can adapt to change in my career plans”), career optimism (11 items, sample: “Thinking about my career inspire me”) and perceived knowledge (3 items, sample: “It is easy to see future employment trends”). Participants were asked to indicate the extent of their agreement for each item, using a scale from 1 (strongly disagree) to 5 (strongly agree).

5. Results

5.1. Structural validation using confirmatory factor analysis
To test the structural validity of the protean and boundaryless career attitudes scales, we used confirmatory factor analysis to test three alternative models. The first was a one-factor model were all the items in the two scales comprised one factor only. The second was a two-factor model were the respective items in the Protean career attitudes and the boundaryless career attitudes scales indicated two factors. The final model was a four-factor model with the two subfactors in each of the Protean career attitudes and the boundaryless career attitudes scales indicating four factors. In all the models, the factors were allowed to covary, and the error terms of the items in each of the factors were allowed to correlate. The confirmatory factor analysis was conducted using AMOS for SPSS (v24).

To test the goodness of fit of the data for each of the four model, several fit indexes were considered as will be shown in Table 1. Table 1 shows that there was a poor fit between the data and the one-factor model. However, both the two-factor and four-factor model are shown to have good fit. A chi-square difference test indicates that not one of the two models is better than the other, \( \Delta \chi^2(5) = 8.18, p = .147 \). Thus, both the two-factor model and the four-factor model could be considered as valid structures of the two scales. However, for the two-factor model, three items in the organizational mobility preference subscale are nonsignificant indicators of the boundaryless career attitude factor, which suggests that although there is good fit between the two-factor model and the data, not all items work well within the two-factor structure. In contrast, all the items are significant indicators of their respective factors in the four-factor model. With this consideration, we suggest that the four-factor model has the best fit with all the items in the scale, thus providing

| Fit index | One-factor model | Two-factor model | Four-factor model |
|-----------|------------------|------------------|------------------|
| \( \chi^2 \) | 3448.54 | 468.48 | 476.66 |
| df | 324 | 261 | 266 |
| \( p \) | < .001 | < .001 | < .001 |
| \( \chi^2/df \) | 10.64 | 1.80 | 1.79 |
| CFI | .57 | .97 | .97 |
| TLI | .53 | .96 | .96 |
| IFI | .57 | .97 | .97 |
| RMSEA | .12 | .04 | .04 |
| 90CI: LL, UL | .12, .13 | .01, .04 | .03, .04 |
evidence for the structural validity of the four subscales and factors in the Protean and boundaryless career attitudes scales for Filipino samples. The four-factor model with the standardized regression coefficients for the factor items and the correlation estimates between the four factors are summarized in Figure 1. We examined the internal consistency of the four factors, and found all to have good reliability. As shown in Table 2, Cronbach α were all higher than .75.

5.2. Construct validity of the protean and boundaryless career attitudes scales

We examine the construct validity of the four scales by examining their relationships with career adaptability, career optimism, perceived knowledge, and cultural intelligence. The basic statistics of the Protean and boundaryless career attitudes scales and other scales for validation are summarized in Table 2, which also indicates that all four scales had good internal consistency (with Cronbach α all higher than .75).

To see whether the four Protean and boundaryless career attitude scale were associated with positive career-related attitudes and abilities, each of the criterion variables (career adaptability, career optimism, perceived knowledge, and cultural intelligence) was regressed to the four Protean

Figure 1. Results of confirmatory factor analysis of four-factor model of scale items with Filipino sample. Coefficients in figure indicate standardized regression weights for each item and correlation estimates between each of the latent factors. Broken lines indicate nonsignificant correlation. Variances of and covariances among the error terms are omitted for simplicity of presentation.

Table 2. Descriptive statistics for career attitudes scales

|                      | α    | M   | SD  | Correlations (r) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|----------------------|------|-----|-----|------------------|-----|-----|-----|-----|-----|-----|-----|
| (1) Self-directed career management attitudes | .82  | 4.17| .54 | .50***           | .49***| .02 | .55***| .38***| .24***| .35***|
| (2) Values-driven career attitudes               | .76  | 3.78| .67 | .32***           | -.12**| .33***| .23***| .22***| .26***|
| (3) Boundaryless mindset                          | .92  | 4.13| .71 | .08*            | .54***| .33***| .23***| .43***|
| (4) Organizational mobility preference            | .79  | 2.92| .79 | .20***           | .13**| .01  | .05  |     |     |
| (5) Career adaptability                           | .81  | 3.95| .50 | .50***           | .32***| .42***|     |     |     |
| (6) Career optimism                               | .83  | 3.39| .64 | .36***           | .20***|     |     |     |     |
| (7) Perceived knowledge                           | .60  | 3.12| .78 | .26***           |     |     |     |     |     |
| (8) Cultural intelligence                         | .86  | 3.63| .48 |     |     |     |     |     |     |

*p < .05, **p < .01, ***p < .001.
and boundaryless career attitude scale and to the participants’ age and sex. The summary of the different regression analyses is shown in Table 3. For all regression models the F-test of the overall significance of each of the regressions models was significant at $p < .001$. The significant regression models indicated that the Protean and boundaryless career attitude scales explained a significant portion of the variation in the career-related criterion variables, but the specific relationships varied across the constructs used for validation.

As shown in Table 3, the protean and boundaryless career scales were most strongly associated with career adaptability, with the regression model explaining around 43% of the variance [$R^2 = .43$, $F (6, 630) = 78.52, p < .001$]. Consistent with the hypotheses, self-directed career management, boundaryless mindset, and mobility preference career attitudes all positively predicted career adaptability, but values-driven career attitudes was not associated with adaptability. The pattern of the relationships was similar in the case of career optimism, thus also supporting the hypothesis. Although the model predicted less than 20% of the variance in career optimism, the regression model was still statistically significant [$R^2 = .19$, $F (6, 630) = 23.98, p < .001$]. However, the hypothesis was not confirmed in the case of perceived knowledge about careers. The regression model was statistically significant [$R^2 = .10$, $F (6, 630) = 11.89, p < .001$], but organizational mobility preference was not significantly related to mobility preference. Unexpectedly, values-driven career attitudes was positively associated with mobility preference. Finally, the results of the regression analysis involving cultural intelligence also did not conform with the hypothesis; again, organizational mobility preference was not significantly associated with the criterion variable, but the regression model was still statistically significant [$R^2 = .22$, $F (6, 630) = 28.95, p < .001$]. These unexpected results and the confirmed hypotheses are discussed in the next section.

6. General discussion

The results of the study validated the four-factor structure of the protean and boundaryless career scales in a sample of young Filipino adults, and also showed good internal consistency among the four factor scales. The study also provided preliminary evidence to show that most of the scales predict important career-related constructs (adaptability, optimism, perceived knowledge, and cultural intelligence) in the same sample. The results of the study provide further evidence for the structural validity and construct validity of the protean and boundaryless career scales in populations other than the North American samples for which the original scales were developed and validated (Briscoe et al., 2006). As noted earlier, translations and adaptations of the protean and boundaryless career scales have been previously made in several western, industrialized, and rich countries (e.g., Spain, Italy, Germany, France, etc.), and a few non-western countries like Iran, Korea, and Singapore. All these validation studies including the current one demonstrate not only the utility of the scale, but the meaningfulness of the protean and boundaryless career concepts in various cultures. The additional evidence for the validity of the scale with another non-western, non-industrialized, and non-rich country contributes to making stronger data upon which to knowledge about protean and boundaryless careers can be built.

We note that the validation with a Filipino sample did not involve a translation into the local language, but that we considered the English scales to be appropriate for use in the Philippines as English is the language used in the domain of professional work in Philippine society (Gonzalez, 2004) and that Filipinos who quality for such positions are typically those who complete formal basic and higher education with English as medium-of-instruction (Bernardo, 2008a). As the results attest, the English language scales were shown to have good structural validity and internal consistency. We realize, however, that the usefulness (and also the validity) of the scales might be different for Filipino workers who have lower proficiency in the English language and/or lower levels of educational attainment, and thus, we cannot claim that the scales validated in the current study will be valid for this subpopulation of Filipino workers. Moreover, previous studies show that Filipino versions of English language tests do not always show similar factor structures as the original English tests, and thus, we cannot assume that a translation of the validated scales in English would have similar good validity. These are important limitations of the study that can
Table 3. Summary of results of multiple regression analysis to assess construct validity of Protean and boundaryless career attitude scale

|                      | Career adaptability |                      | Career optimism |                      | Perceived knowledge |                      | Cultural intelligence |                      |
|----------------------|---------------------|----------------------|------------------|----------------------|---------------------|----------------------|-----------------------|----------------------|
|                      | B       | t   | 95% CI | B       | t   | 95% CI | B       | t   | 95% CI | B       | t   | 95% CI |
| Age                  | −.00    | −0.14 | [−.03, .02] | .02    | 0.46  | [−.03, .05] | −.06    | −1.55 | [−.09, .01] | .06    | 1.79 | [−.00, .05] |
| Gender               | .08     | 2.64  | [.02, .14] | .09    | 2.40  | [.02, .21] | .14     | 3.70  | [.10, .33] | .01    | 0.29 | [−.06, .08] |
| Self-directed        | .36     | 9.43  | [.26, .40] | .26    | 5.73  | [.20, .42] | .11     | 2.39  | [.03, .30] | .15    | 3.31 | [.05, .21] |
| Values-driven        | .05     | 1.49  | [−.01, .09] | .05    | 1.22  | [−.03, .13] | .11     | 2.44  | [.02, .23] | .08    | 1.88 | [−.00, .12] |
| Boundaryless mindset | .34     | 9.71  | [.19, .29] | .18    | 4.40  | [.09, .24] | .15     | 3.49  | [.07, .26] | .33    | 9.04 | [.17, .28] |
| Organizational mobility preference | .18 | 5.75  | [.07, .15] | .12    | 3.24  | [.04, .16] | .02     | 0.52  | [−.05, .09] | .03    | 0.82 | [−.03, .06] |

*p < .05, **p < .001
be addressed in future research that would translate and validate the scales in Philippine languages so that they can be used more widely in the population of Filipino workers.

Another limitation of the study relates to the fact that the participants were young adults who were not yet actually working in organizations. Previous validation studies of the protean and boundaryless career attitudes scales also involved university student samples (e.g., Briscoe et al., 2006; Chan et al., 2015; Kaspi-Baruch, 2016; Stauffer et al., 2019) given that the scale is also used for career counseling of future workers. However, it is possible that some of the items of the scale would have different layers of meaning for individuals who have actually worked in organizations and have had experience related to how their own values and identity are shaped by organizational processes. Indeed, the responses are most likely reflections of the participants’ speculations or anticipations about their career experiences. But these are still reflective of the orientations and attitudes that the scales are intended to measure. Nevertheless, it would also be good to undertake a validation involving adults who are already in the world of work. However, there is an advantage to the fact that the participants are university students, and that is that the scales are shown to be useful for purposes of career counseling future workers (more on this point later).

The validation study was only limited to testing the structural validity and internal consistency of the scales and to showing some evidence of construct validity. It would be important to do further validation that focus on other aspects like convergent and discriminant validity of the scales and subscales, test-retest reliability, other measures of construct validity appropriate to the Filipino work context. As regards construct validity, it is worth noting that the values-driven career attitudes scale was not significantly associated with the career-related constructs studied except for perceived knowledge. This unexpected finding might suggest interesting possibilities about how values-driven career attitudes work differently from the other three scales. Briscoe and Hall (2006) have suggested that values-driven career attitudes could make an individual more rigid in career management, which would explain why it is not associated with the other career variables that indicate adaptability, positive outlook, and flexibility. But the positive association with perceived knowledge indicates some sense of certitude about how career-related information aligns with the personal values. Values-driven career attitudes also showed a statistical trend in positively predicting cultural intelligence ($p = .061$); we do not wish to make much of this trend except for the point that future research should explore other career-related processes and outcomes that could be positively or negatively associated with this particular scale, and that also contrast different positive and negative correlates of the four subscales.

These limitations of the study notwithstanding, the results of the study point to important practical and theoretical pathways. The availability of a valid measure to assess the four career attitudes can be information for human resource professionals in Philippine work organization to better understand the career-related motivations of their workers, and how they may or may not adapt to the organization, the transitions within the organization and beyond. Likewise, the information from these valid scales can useful for career counseling both for future workers (like the university students in the sample) and also workers undergoing different work-related transitions. For example, career counseling can be directed towards strengthening self-directed career management (Verbruggen & Sels, 2008). Career construction counseling models (e.g. Savickas, 2011) have been proposed that seem to be aligned with the career attitudes in the four scales, and these can be applied to Filipino workers. The protean and boundaryless career attitudes scales can be used not only as information for these counseling models and other career-related human resource management interventions, but also in research as a measure to assess their effectiveness in Filipino counseling clients. Beyond using the scales as tools for measuring efficacy of career-related interventions, these measures could also be used to determine whether individuals’ protean and boundaryless career orientations are moderating or mediating the efficacy of the interventions in improving work-related processes and outcomes.

Also in line with research, the valid scales could be used to inquire into the career management process of workers in vulnerable job arrangement such as those in long-term contractual
or subcontracted employment (Cristobal & Resurreccion, 2014), or in short-term or temporary hiring arrangements (Ofreneo, 2013). For example, the scales could be used to inquire into whether protean and boundaryless career orientations relate to different forms of coping and decision making amid unstable work arrangements, or to job seeking or job improvement intentions and behaviors. The scales could also be used to explore differences among the large numbers of Filipino workers overseas in low-skilled jobs compared to the self-initiated Filipino workers in the high-skilled or technical professions (Presbitero & Quita, 2017). Conceivably, although both groups are engaged in cross-country work mobility, the decision making processes related to the work movement might be related to the protean and boundaryless mindsets in different ways. Finally, the scales could be used to further study the growing number of Filipino “millennials” in the work force who are said to be prioritize independence and their ethical values in their work (Velasco & de Chavez, 2018), which in theory seemed to be aligned with the protean and boundaryless career orientations. But research using the scale could inquire into whether these career orientations have the expected work related processes and outcomes. The availability of the valid tool should allow for tests of more precise theories and hypotheses on how these career attitudes relate to adaptability, performance, and success of these different subgroups of Filipino workers.

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Author details
Allan B. I. Bernardo 1, 2
E-mail: allan.bernardo@dlsu.edu.ph
ORCID ID: http://orcid.org/0000-0003-3938-266X
Maria Guadalupe C. Salanga 1
E-mail: maria.guadalupe.salanga@dlsu.edu.ph
ORCID ID: http://orcid.org/0000-0001-9752-7594
1 Psychology Department, De La Salle University, 2401 Taft Avenue, Manila, Philippines.
2 Department of Psychology, University of Macau, E21-3060 Humanities and Social Sciences Building, Avenida da Universidade, Taipa, Macau.

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