Original Article

Context and Validation of the Subjective Underemployment Scale Among Turkish Employees

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Abstract

The purpose of the current study was to validate the Turkish version of the Subjective Underemployment Scales (SUS; Allan et al., 2017), a recently developed measure aimed at assessing the six components of underemployment: pay, status, field, hours, involuntary temporary work, and poverty wage employment. The proposed six-factor structure of the SUS was empirically supported among a diverse group of Turkish employees (211 female, 190 male with a mean age of 32.31; ranging from 20 to 63). Consistent with the original study, a six-factor correlational model produced better fit indices than single factor, higher order, and bifactor model. A series of multigroup confirmatory factor analyses provided evidence for configural, metric, and scalar invariance of the SUS, suggesting that the structure of the Turkish version of the scale was equivalent across gender, income, and social class groups. The results of the correlational analyses supported validity by significant positive correlations with measures of overqualification and withdrawal intentions and significant negative correlations with measures of job satisfaction, pay satisfaction, and meaningful work. The results of the study indicated the Turkish version of the SUS (T-SUS) provided a valid and reliable assessment of underemployment among Turkish employees. Also, findings of the present study help to gain an understanding of subjective underemployment experiences of Turkish employees and provide a framework for practitioners; employers, researchers, and policymakers to determine potential need for improvement through components of underemployment.

Keywords

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Across the world, a number of forces are converging to degrade the quality of work and restrict access to decent, fulfilling employment (International Labour Organization [ILO], 2019). For example, factors such as organizational changes, income inequality, trade deceleration, and technological innovation are resulting in persistent global increases of labor instability and underemployment (ILO, 2019). This is also true in Turkey, which has experienced economic instability as well as unemployment and underemployment (Buyukgoze-Kavas & Autin, 2019; Ceritoglu et al., 2017; United Nations, 2019; Zeytinoglu et al., 2012). A critical concern in this context is the psychological effect of being underemployed, and a host of studies have linked underemployment with poorer mental health and psychological functioning, often to the same degree as unemployment (e.g., Allan et al., 2019; Blustein et al., 2013; Dooley et al., 2000). However, despite these initial studies, the literature base on underemployment is small, especially in comparison to unemployment, and scholars have largely used narrower operationalizations of underemployment with several issues. For example, scholars have tended to use single-item, categorical, and objective indicators of underemployment and usually measure only one or two types of underemployment at a time (e.g., Dooley et al., 2000; Friedland & Price, 2003; Maynard et al., 2006).

To address this concern, vocational psychologists developed the Subjective Underemployment Scales (SUS), which measures six subjective dimensions of underemployment (pay, status, hours, temporary work, field, poverty wage employment) in addition to an existing perceived overqualification scale (Allan et al., 2017; Maynard et al., 2006). The goal of this study was to facilitate adoption of the scale in cross-national contexts because the scale is currently only available in English and Korean. Given the context of the labor market in Turkey, translating this scale into Turkish is an important goal for research, not only to facilitate research on underemployment in Turkey, but also to understand underemployment cross-culturally. Therefore, the primary goal of the current study was to translate and validate the Turkish version of the SUS (T-SUS).

Theoretical Framework

Underemployment is a complex construct operationalized in a variety of ways in the literature (Allan et al., 2017; McKee-Ryan & Harvey, 2011). Underemployment broadly refers to work that is lesser to several internal and external standards, such as compensation and use of skills that match people's qualifications (Benach et al., 2014; Feldman, 1996). However, underemployment is multidimensional, with many different intersecting components. For example, Feldman (1996) described five primary types of underemployment: (a) having more education than a job requires, (b) being employed outside of a person's field of education or experience, (c) having higher skills and experience than is required in a position, (d) working involuntarily in a part-time or temporary job, and (e) earning less income than a former job.

These five types of underemployment are described objectively, and scholars have typically measured underemployment with objective and categorical indicators (e.g., Dooley et al., 2000; Friedland & Price, 2003). However, by applying relative deprivation theory, other scholars have argued that underemployment results from subjective judgements whereby people compare their work to personal and social standards and other people with similar credentials (Allan et al., 2017; Feldman et al., 2002; Feldman & Turnley, 2004). Relative deprivation theory explains how individuals compare their present work situation to ideal work situations that can vary from person to person (Luksyte & Spitzmueller, 2011). According to Feldman et al. (2002), the construct of relative deprivation refers to "individuals' 'subjective' reactions to their employment predicaments" (p. 457). The experience of underemployment can occur if the comparison of currently possesses and ideal work situation causes a discrepancy. Thus, the theory emphasizes the subjective feature of underemployment, people's expectations, and different criteria of comparison people use. Following from this perspective, Allan et al. (2017) developed a subjective model of underemployment

Table 1. Unemployment Rates of Youth and Working Age Population in Turkey.

	Youth (Aged 15–24)		Working age (Aged 15–64)	
	High school graduate and less than high school (%)	University degree and higher (%)	High school graduate and less than high school (%)	University degree and higher (%)
2014	15.8	28.3	10.4	10.7
2015	15.5	29.5	10.7	11.0
2016	16.9	30.8	11.2	12.1
2017	16.9	34.4	11.1	12.7
2018	17.4	30.6	11.1	12.4
2019	22.5	35.6	14.6	13.7

Source: TurkStat https://biruni.tuik.gov.tr/medas/?kn=72&locale=tr
Note. The values of the high school graduate and less than high school calculated by the authors.

encompassing seven dimensions: underpayment; status underemployment; working in a field different from one's education, experience, and skills; involuntary part-time work; involuntary temporary or contract work; poverty wage employment; and perceived overqualification. These scholars found that the seven dimensions of underemployment fit together best in a multifactor correlational model, meaning that these dimensions represent relatively independent experiences with unique predictors and outcomes (Allan et al., 2017). They also found that all dimensions of subjective underemployment negatively relate to positive job attitudes (e.g., job satisfaction, meaningful work) and positively predicted withdrawal intentions.

Context and Domains of Underemployment in Turkey

As a transcontinental country, The Republic of Turkey is located between Western Asia and Southeastern Europe. According to the International Monetary Fund (IMF, 2019), Turkey, as an emerging market economy, has the world's 17th-largest economy. The latest census in 2019 revealed that Turkey's population has exceeded 83 million and 92.8% of the population has lived in city centers and the counties (Turkish Statistical Institute [TurkStat], 2020). The working-age population (aged 15–64) constitutes 67.8% of the population, and the ratio increased by 1.4% compared to the previous year (TurkStat, 2019a). The Turkish economy, however, has many difficulties in responding to the needs of a high number of working-age people due to unstable economic conditions, the influx of refugees, international terrorism, recent decreases in its currency, and political challenges (Buyukgoze-Kavas & Autin, 2019; United Nations, 2019). These factors, in consort with gender gap in labor force participation, income discrepancies, and difficulty in creating quality employment opportunities were emphasized by the Organization for Economic Co-operation and Development (OECD, 2017). Thus, unemployment has been a major concern for the nation in the last few decades, and recent data suggest an increasing trajectory (TurkStat, 2019b). More specifically, the number of unemployed people aged 15 and over has increased severely by 980 thousand people in the recent year and reached 4 million 650 thousand people. As a result, the unemployment rate of youth (15–24 years) increased by 6.6 points to 27.4%, and this rate is 14.3% in the 15–64 age group with 2.9 points increase. In addition, a closer look at youth unemployment statistics in Turkey revealed that unemployment is more prevalent among the youth who have a university or higher degree than all other groups having a varying degree of education (Table 1).

In contrast to unemployment statistics, there is no certain data regarding the currently experienced underemployment, which has increasingly become a serious problem for Turkish people. Although underemployment and its outcomes have received less attention than unemployment, it is

one of the remarkable signs of economic stagnation (Rutkowski, 2006; Susanlı, 2017). To date, there has been relatively little research attempting to understand underemployment in Turkey and much of what has been done concentrated largely on making inferences by using the official Turkish Household Labor Force Surveys. For example, Taşçı and Darıcı (2010) reported that being a woman and being married increased the probability of underemployment based on Household Labor Force Surveys between 2006 and 2008. In another study, Kumaş and Çağlar (2011), using the 2009 Household Labor Force Surveys, asserted that individuals between ages of 15 and 24 and those with higher educational attainment were more likely to experience underemployment than all other groups. In a recent study, Görmüş (2019) examined the relations between time-based underemployment and demographic characteristics based on the 2016 Turkish Household Labor Force Survey data and found that being male, being between 24–35 years of age, having a university or higher degree, working in informal jobs increases the probability of time-based underemployment. The subsequent section provides details on how the six components (underpayment, status, hours, temporary work, field, and poverty wage employment) of the SUS would operate in the Turkish context.

Underpayment and Poverty Wage Employment

Underpayment is used to refer a lower earnings compared to a previous job or to workers with similar knowledge, experience, skills, and abilities (Allan et al., 2017; Feldman, 1996). Poverty wage employment however means a job without a reasonable income that prevents people to attain a decent life (Allan et al., 2017). The prevalence of informal employment in Turkey was highlighted by OECD (2018) and the European Commission (EC, 2019) reports. In Turkey, informal jobs that are largely characterized by low wages mean employees not registered with any social security institution and work without basic rights such as health insurance and retirement pensions. In the meantime, Turkey has the third highest level of relative poverty among the OECD countries (OECD, 2018). In addition, 20% of the population with the lowest income (lowest quintile) earned 8.6 times less than 20% of the population with the highest income (top quintile) (Eurostat, 2018). Thus, informality and poverty rate may highlight the financial components of underemployment.

Status and Field

Status underemployment occur when employees perceive a lower position at work than a previous position or compare to peers with similar knowledge, skills, and experiences, whereas field underemployment takes place when employees work outside of their area of formal education, training, or expertise (Allan et al., 2017; Feldman, 1996). Status and field underemployment in Turkey have constantly increased. OECD (2016) statistics regarding skills for jobs revealed the rate of field of study mismatch as %36, and qualification mismatch as %43, and the large proportion of the qualification mismatch includes overqualification (%29.1). Likewise, as highlighted by Habibi (2017), one of the significant causes of underemployment in Turkey is overeducation which leads to overqualification. An increasing trend of overeducation is also emphasized in Turkey (Filiztekin, 2011). Given that the number of universities in Turkey increased considerably, which was 90 in 2000 has reached 202 in 2019, the number of students enrolled in universities constantly increased. More specifically, the number of students placed in universities raised dramatically from 41,574 in 1980 to 196,253 in 1990, 414,647 in 2000, 786,677 in 2010, and 904,176 in 2019 (Higher Education Information Management System, [HEIMS], 2019). Obviously, this continuous increase in access to higher education has caused a surplus of university graduates. As a result, a growing number of university graduates who cannot find skilled jobs in their fields of study have to take

semi-skilled or unskilled jobs that do not require university degrees (Habibi, 2017). Numerous university graduates may wind up as clerical, waiters, shop assistants, drivers, and participate in the informal labor force in the industry with low wage.

Hours

Hours-based underemployment is characterized by working fewer hours than desired (Allan et al., 2017). According to OECD (2020), the part-time employment rate in Turkey has been changed between 9.43 and 9.95 throughout the last 5 years. These rates seem lower than the average of OECD countries (16.97–16.70) for the same period of time. However, similar to Korea (Kim & Allan, 2020) hours-based underemployment most probably has been experienced differently by Turkish employees due to the prevalence of long working hours. More specifically, employees in Turkey work longer hours (weekly 45.4 h) in comparison with European countries (weekly 37.0 h) and the United States (weekly 34.4 h; European Statistics, 2020). Thus, the current context may lead to hours-based underemployment less dominant domains of underemployment in Turkey.

Temporary Work

Temporary work is also known as precarious or intermittent work recognized as involuntary work limited to a certain period of time (Allan et al., 2017; Feldman, 1996; Maynard et al., 2006). In Turkey, the labor law (no 4857, article 18) enacted in 2003, workplaces employing 30 or more workers have job security provisions workers who have worked for more than 6 months. However, workplaces with less than 30 employees, employees are not covered by the job security provision, "which means the employer's obligation to depend on a valid reason to terminate an employment contract does not apply" which may result in increased temporary work (ILO, 2019). As a result of dismissal policies regarding establishments with less than 30 employees, temporary workers are forced to accept lower wages to survive their life which leads to the intersection between temporary work and underpayment. Thus, Turkish subjective underemployment as in Korea (Kim & Allan, 2020) could be placed at the intersection of multiple underemployment domains.

The Present Study

Although researchers have consistently sought to explore determinants of underemployment, the absence of empirical studies using a psychometrically-sound scale of underemployment in Turkey limits this research. A validated measurement instrument of underemployment may provide researchers and practitioners with essential tools to further explore this construct in individuals and organizations. Thus, to measure underemployment as conceptualized by Allan and colleagues (2017), we examined the validity and reliability of the Subjective Underemployment Scales (SUS) among Turkish employees. For evidence of construct validity of the Turkish version of the SUS, we conducted a series of confirmatory factor analyses (the six factor correlational model, single factor model, higher factor model, and bifactor model) and investigated the associations between underemployment and overqualification, withdrawal intentions, job satisfaction, pay satisfaction, and meaningful work. Based on the original scale development study (Allan et al., 2017), we hypothesized that working adults who experience higher levels of underemployment will experience greater overqualification and withdrawal intentions and will experience less job satisfaction, pay satisfaction, and meaningful work. Additionally, we tested measurement invariance of the SUS

using multigroup confirmatory factor analysis, examining invariance in terms of gender, social class, and income.

Method

Participants

The sample of the present study consisted of 401 working adults (211 female, 190 male) with ages ranging from 20 to 63 ($M = 32.31$, $SD = 7.96$). Educational attainments of the participants were less than high school (6.2%), high school (10.5%), vocational school (14%), undergraduate degree (54.9%), and graduate degree (14.5%). The majority of the participants were employed full-time ($n = 362$, 90.3%) and 9.7% ($n = 39$) of them were employed part-time. More than thirty job titles were represented in the sample and the most commonly stated job titles were teacher (12.4%), engineer (6.7%), technician (6%), religious minister (5.7%), officer (5.2%), tradesman (4%), physiotherapist (3.7%), and clerk (2.5%). Participants self-reported monthly average incomes ranging from 700 to 23,000 Turkish liras ($M = 5,270.28$; $SD = 3,358.61$). In addition, participants indicated their perceived social class on a ladder with a scoring system ranging from 1 (worst off) to 10 (best off) relative to other people in Turkey ($M = 5.51$; $SD = 1.80$) (Adler et al., 2000).

Instruments

Subjective underemployment. The Subjective Underemployment Scales (SUS; Allan et al., 2017) was used to measure subjective perceptions of six underemployment dimensions: pay, status, hours, temporary work, field, and poverty wage employment. The SUS consisted of 37 items rating on a 7-point Likert scale ranging from *strongly disagree* to *strongly agree*. Sample items include, "Given my credentials, I should have a higher position at work" and "I work in a temporary position, because I cannot find a permanent job." Allan et al. (2017) reported high internal consistency reliability for the subscales of the SUS ranging from .95 to .97. In addition, the SUS positively correlated with overqualification and withdrawal intentions, and negatively correlated with pay satisfaction, job satisfaction, meaningful work, career commitment, co-worker satisfaction, supervisor satisfaction (Allan et al., 2017).

Because using a proper translation process is critical to minimize the bias and enhance the equivalence of the translated scales, we followed Ægisdóttir, Gerstein, and Çinarbaş (2008) recommendations in this study. Our translation procedure involved several steps starting with independent translations of the scale from English to Turkish by five professors of psychological counseling who were fluent in both English and Turkish. Then, we compared the translations to reach an agreement on the best translation of the items. Subsequently, the Turkish translation of the scale was back-translated into English by another professor of psychological counseling who was fluent in both English and Turkish. Both original and back-translated versions of the scale were compared with regard to the clarity and meaning of the items. A small group of working adults ($N = 9$) from different institutions and organizations then provided verbal feedback about each item of the scale, and we changed some of the wording of items based on this feedback. Finally, we formed the Turkish version of the SUS to obtain more evidence about its validity and reliability.

Meaningful work. The Work as Meaning Inventory (WAMI; Steger et al., 2012) was used to measure degree of meaning people found in their work. The scale consists of 10 items and three subscales, which are positive meaning, meaning-making through work, and greater good motivations. The items of the scale rated on a 7-point Likert scale ranging from *strongly disagree* to *strongly agree.* Sample items include "I view my work as contributing to my personal growth" and "I know my work makes a positive difference in the world." In the original scale development study, Steger et al.

(2012) found high internal consistency reliability (α = .93) for the total scale and significant correlations with career commitment, organizational commitment, withdrawal intentions, and job satisfaction. Validity and reliability studies of the Turkish version of the scale were performed by Akın et al. (2013). Akın et al. (2013) reported the internal consistency reliability of the WAMI as .86 for the total scale. In the current study, internal consistency reliability for the total scale scores was .93.

Withdrawal intentions. The 3-item scale developed by G. J. Blau (1985) was used to measure participants' intentions to leave from their current jobs. The items of the scale rated on a 5-point Likert scale ranging from *strongly disagree* to *strongly agree*. Sample items include "I am actively searching for an alternative to my occupation," and "I intend to stay in my current occupation for some time." A number of studies (Allan et al., 2017; G. J. Blau, 1985; G. Blau 2000; Duffy et al., 2017) have provided internal consistency reliabilities higher than .70 and significant correlations between withdrawal intentions and role ambiguity, job involvement, career commitment, decent work, organizational commitment. İbrahimoğlu and Aydınçelebi (2013) reported an internal consistency reliability of .80 for the Turkish version of the scale, and they found that the scale negatively correlated with self-efficacy and job performance. In the present study, internal consistency reliability was .87.

Perceived overqualification. The 9-item Scale of Perceived Overqualification was used to measure perception of overqualification (SPOQ; Maynard et al., 2006). Participants responded to the items of the scale using a 7-point Likert scale ranging from *strongly disagree* to *strongly agree*. Sample items included "My education level is above the education level required by my job" and "The work experience that I have is not necessary to be successful on this job." Maynard et al. (2006) found the scale to have a high internal consistency reliability (α = .89) and reported significant correlations with job satisfaction, underpayment, and voluntary turnover. Yıldız et al. (2017) reported an internal consistency reliability for the Turkish version of .85. In this study, the estimated internal consistency coefficient was .87.

Job attitudes. The Job Descriptive Index and the Job in General were used to measure participants' thoughts about different facets of their work (JDI and JIG, respectively; Smith et al., 1969). The Job Descriptive Index consists of five subscales, including satisfaction with: coworkers (18 items; e.g. "Helpful," "Rude"), work on present job (18 items; e.g. "Respected," "Exciting"), pay (9 items; e.g. "Fair," "Underpaid"), opportunities for promotion (9 items; e.g. "Regular promotions," "Very limited"), and supervision (18 items; e.g. "Supportive," "Annoying"). The JIG scale measures overall job satisfaction with 18 items (e.g., "Great," "Waste of time"). Both scales are designed in the same rating format; participants responded to items with *Yes* if it describes their job, *No* if it does not describe their job, or? if they cannot decide. Balzer et al. (1997) reported high internal consistencies for coworkers (α = .88), work on present job (α = .90), pay (α = .88), opportunities for promotion (α = .88), supervision (α = .88), and for the JIG (α = .92). Both the JIG and the facets of the JDI significantly correlate with job satisfaction, withdrawal intentions, job stress, perceived overqualification (Allan et al., 2017; Balzer et al., 1997; Smith et al., 1987). Ergin (1997) found high internal consistency reliabilities for the Turkish version of the JIG (α = .92), and subscales of the JDI, including satisfaction with coworkers (α = .92), work on present job (α = .84), pay (α = .80), opportunities for promotion (α = .84), supervision (α = .91). For the present study, we used the pay satisfaction and the JIG scales, and the internal consistency reliabilities of theses scales in the present study were .87 and .92, respectively.

Table 2. Confirmatory Factor Analyses.

Model	χ^2	df	χ^2/df	CFI	RMSEA [90% CI]	SRMR	AIC
Single factor	9580.63*	629	15.23	.37	.18 [.18–.19]	.18	9,728.63
Correlational	1738.36*	614	2.83	.92	.06 [.06–.07]	.05	1,916.36
Higher order	1883.21*	623	3.02	.91	.07 [.06–.07]	.09	2,043.21
Bifactor	1698.19*	592	2.86	.92	.06 [.06–.07]	.10	1,920.19

*p < .001.

Procedure

After the ethical approval was received from the first author's institution, the data of the study were collected by the third and fourth authors from eight cities in different regions of Turkey. The scales were administered by using paper-and-pencil format because of the absence of a general database. Researchers visited different institutions and workplace to gather a diverse sample of working adults. Before each administration, the purpose of the research was explained and then the scales were given to those who agreed to participate in the study. No compensation was offered but the pencil which was used to answer the scales given to the participants. Totally, 410 scales were distributed and collected, but nine of them were incomplete. We excluded those cases; hence, the final sample of the study consisted of 401 working adults.

Results

Preliminary Analyses

All variables were checked carefully for missing values, outliers, and normality to prepare data for further analysis. Only 2.1% of the sample had missing values. Given that the percentage of missing data was lower than the 5%, and the final sample size was relatively large (N = 401), we used listwise deletion to remove nine cases from the dataset (Tabachnick & Fidell, 2007). All skewness and kurtosis indicates study variables were normally distributed (skewness < |3|, kurtosis < |10|; Weston & Gore, 2006).

Confirmatory Factor Analyses

Given that confirmatory factor analysis is suggested "when the researcher has some knowledge of the underlying latent variable structure" (Byrne, 2010, p. 6) we conducted a series of CFAs (Table 2) to test the factor structure of the SUS-Turkish version using AMOS 23 with maximum likelihood estimation (ML). In order to compare obtained findings from the current study with the original study (Allan et al., 2017), we used the same fit indices to evaluate the models: the comparative fit index (CFI), root mean square error of approximation (RMSEA), standardized root mean residual (SRMR), and Akaike's Information Criterion (AIC). Cutoff values for the good fit have ranged from CFI ≥ .90, RMSEA and SRMR ≤ .10 to CFI ≥ .95, RMSEA ≤ .06 and SRMR ≤ .08 (Hu & Bentler, 1999; Weston & Gore, 2006). In addition, we considered the χ^2 to degrees of freedom ratio (χ^2/ df) because of the sensitivity of χ^2 to sample size. While the ratio of ≤ 5 representing an acceptable fit, ≤ 3 indicating a good fit (Kline, 2005; Schumacker & Lomax, 2004). Consistent with Allan and colleagues' (2017) original study, we examined and compared fit indices of the correlational, single-factor, higher-order, and bifactor CFA models. Since differences in χ^2 are highly sensitive to sample size (Brannick, 1995; Kelloway, 1995), we also used CFI and RMSEA difference criteria (ΔCFI ≤ .010, ΔRMSEA ≤ .010; Cheung, & Rensvold, 2002) to compare the models.

Single factor model. The single factor model required all items load on a single underemployment factor. This model had poor fit to the data, χ^2 (629) = 9580.63, $p < .001$, χ^2/ df = 15.23, AIC = 9728.63, CFI = .37, RMSEA = .18, 90% CI [.18, .19], SRMR = .18. The χ^2 difference test revealed that this model had worse model fit than the six-factor correlational model, $\Delta\chi^2$ (15) = 7842.27, $p < .001$, ΔCFI = .548, ΔRMSEA = .121.

Correlational model. The correlational model comprised of the six subjective underemployment factors which were allowed to be correlated with each other. The correlational model had good fit to the data, χ^2 (614) = 1738.36, $p < .001$, χ^2/ df = 2.83, AIC = 1,916.36, CFI = .92, RMSEA = .06, 90% CI [.06, .07], SRMR = .05. All items significantly loaded on factors (Appendix Table A1).

Higher order model. The higher order model had items load on their respective factors, and then all factors loaded onto a higher order underemployment factor. Thus, the higher-order model demonstrated the same six-factor structure as correlational model but included a higher-order factor labeled as underemployment χ^2 (623) = 1883.21, $p < .001$, χ^2/ df = 3.02, AIC = 2,043.21, CFI = .91, RMSEA = .07, 90%CI [.06, .07], SRMR = .09. According to the χ^2 test, the high order model also had significantly poorer fit to the data than the correlational model, $\Delta\chi^2$ (9) = 144.85, $p < .001$. However, the change in both CFI and RMSEA values were smaller than the suggested critical values (ΔCFI = .009 and ΔRMSEA = .003), indicating that the models were not practically different.

Bifactor model. The bifactor model, in which each of the 37 items freely load on a general underemployment factor along with their six uncorrelated corresponding factors, had significantly worse fit than the six-factor correlational model with respect to χ^2 difference test, χ^2 (592) = 1698.19, $p < .001$, χ^2/ df = 2.86, AIC = 1,920.19, CFI = .92, RMSEA = .06, 90% CI [.06, .07], SRMR = .10; $\Delta\chi^2$ (22) = 40.17, $p < .01$, but not by the practical difference tests (ΔCFI = .002, ΔRMSEA = .000). According to the results of the model comparisons and fit indices, the six-factor correlational model was the best fitting model.

Factorial Invariance

Chan (2011) states that "we cannot assume the same construct is being assessed across groups by the same measure" without tests of measurement invariance (p. 108). Accordingly, to investigate the equivalence of the correlational model across gender, social class, and income, we conducted multigroup invariance analyses (Table 3). For gender, we compared participants self-identifying as men and women. For income and subjective social class comparisons, we formed subgroups by splitting the variables at their mean scores. Similar to previous studies (Buyukgoze-Kavas & Autin, 2019; Duffy et al., 2017) we used the mean score (5.51) of the MacArthur Scale of Subjective Social Status (Adler et al., 2000) to make the subjective social class comparisons (i. e., low and high social class). We made comparisons between high and low income groups based on the reported monthly income of the participants (5,270 TLs). According to Vandenberg and Lance's (2000) suggestions, we tested configural (M0), metric (M1), and scalar (M2) invariance models across groups.

Fit indices revealed that the configural model (M0) was modestly well-fitting to the data across gender, subjective social class, and income groups (Table 3). Indices for gender groups were: χ^2 (1228) = 2732.59, $p < .001$, CFI = .90, RMSEA = .05, 90% CI [.053, .058], and SRMR = .05. Indices for social class were: χ^2 (1228) = 2781.71, $p < .001$, CFI = .90, RMSEA = .05, 90% CI [.054, .059], and SRMR = .06. Indices for income were: χ^2 (1228) = 2837.19, $p < .001$, CFI = .89, RMSEA = .05, 90% CI [.057, .060], and SRMR = .06. These results suggested that the number of

Table 3. Test of Measurement Invariance of the Correlational Model Across Gender, Social Class, and, Income.

Model	χ^2	df	CFI	RMSEA [90% CI]	Comparison	ΔCFI	ΔRMSEA
Gender							
M0 (configural)	2732.59	1228	.900	.055 [.053–.058]	—		
M1 (metric)	2782.68	1265	.899	.055 [.052–.058]	M0 vs. M1	.001	.000
M2 (scalar)	2823.40	1302	.899	.054 [.051–.057]	M1 vs. M2	.000	.001
Social class							
M0 (configural)	2781.71	1228	.895	.056 [.054–.059]	—		
M1 (metric)	2838.28	1265	.893	.056 [.053–.059]	M0 vs. M1	.002	.000
M2 (scalar)	2910.67	1302	.891	.056 [.053–.058]	M1 vs. M2	.002	.000
Income							
M0 (configural)	2837.19	1228	.889	.057 [.057–.060]	—		
M1 (metric)	2964.70	1265	.883	.058 [.055–.061]	M0 vs. M1	.006	.001
M2 (scalar)	3079.46	1302	.878	.058 [.058–.061]	M1 vs. M2	.005	.000

the factors and pattern of their structure were equivalent across gender, social class, and income groups.

Subsequently, we conducted a metric invariance test (M1) by constraining all factor loadings to be equal. In order to assess the metric invariance, we compared the fit of the metric model with the fit of the configural model. We made invariance decisions based on the changes in CFI (ΔCFI) and RMSEA (ΔRMSEA) values due to the sensitivity of the χ^2 difference test to non-normality and large sample sizes (Kelloway, 1995). A value of ΔCFI smaller than or equal to .010 and a change in ΔRMSEA up to.010 or .015 indicate invariance (Chen, 2007; Cheung & Rensvold, 2002). Indices indicated that the metric model had an acceptable fit to the data across gender, social class, and income groups (Table 3). Changes in fit were as follows: gender (ΔCFI = .001, ΔRMSEA = .000), social class (ΔCFI = .002, ΔRMSEA = .000), and income (ΔCFI = .006, ΔRMSEA = .001). The ΔCFI and the ΔRMSEA values did not exceed the critical .010 threshold, meaning that factor loadings were invariant across the groups.

Lastly, scalar invariance (M2) requires that the item intercepts be equivalent across groups. Indices demonstrated that the scalar invariance model was also acceptable fit to the data. The metric (M1) and scalar invariance (M2) models were again compared and the fit indices for gender indicated no further changes on ΔCFI = .000 and a slight change calculated on ΔRMSEA = .001. Changes in fit for social class (ΔCFI = .002, ΔRMSEA = .000) and income (ΔCFI = .005, ΔRMSEA = .000) were again less than the thresholds recommended by Cheung and Rensvold (2002) and Vandenberg and Lance (2000). Therefore, the factor structure of the T-SUS, factor loadings, and indicator intercepts were invariant across gender, social class, and income groups.

Reliability

Internal consistency reliability estimates for the six subscales of the SUS were calculated as .96 for underpayment, .95 for status discrepancy, .87 for hours discrepancy, .93 for field, .96 for poverty-wage employment, and for the total scale was .95. All Cronbach alpha coefficients were higher than .70 which is generally agreed upon as an acceptable value (Kline, 1999).

Validity Estimates

In order to provide further validity evidence, we investigated the correlations between the SUS subscale and total scale scores with overqualification, withdrawal intentions, job satisfaction, pay satisfaction, and meaningful work (Table 4). Based on the development and validation of the SUS, we expected the T-SUS total scale and six subscales to significantly and positively correlate with overqualification and withdrawal intentions and significantly and negatively correlate with job satisfaction, pay satisfaction, and meaningful work. A closer look at the relationships of the subscales with other variables revealed that there were low to high correlations with overqualification (rs = .14 to .53), withdrawal intentions (rs = .17 to .40), job satisfaction (rs = −.06 to −.43), pay satisfaction (rs = −.12 to −.69), and meaningful work (rs = .05 to −30).

Discussion

The purpose of the current study was to translate and validate the Turkish version of the Subjective Underemployment Scales. Consistent with the English scale development study (Allan et al., 2017), the correlational model was best fit to the data, and the T-SUS was invariant across gender, social class, and income. The subscales also demonstrated good estimated internal consistencies and correlated in the expected direction with validity variables, including job satisfaction, meaningful work, and withdrawal intentions. Overall, this study revealed that the T-SUS is a valid and reliable measure of subjective underemployment in a Turkish context.

Like the scale development study, the T-SUS had a multifactor correlational structure (Allan et al., 2017). Therefore, while underemployment is an umbrella term that describes substandard employment, the components of subjective underemployment appear to be relatively independent and do not represent one underlying factor. Evidence from the current study suggests that this may be true in both the US and Turkish contexts and suggests that scholars should measure the subscales separately, rather than combining them into a single scale score. This allows scholars to focus on one aspect of underemployment in any given study, similar to what scholars have done with perceived overqualification (e.g., Maynard et al., 2006). However, despite its better fit than the other models, the correlational model did not demonstrate as strong of fit indices as the original scale development study. This is likely due to in part to having lower loadings for the hours underemployment subscale, which is in turn likely the result of having a sample of mostly of people working full-time (90.3%).

The T-SUS was also invariant across gender, social class, and income, although fit indices were lower for these models. Regardless, this suggests that while people with different demographic characteristics may experience different levels of subjective underemployment, the fundamental structure of underemployment is the same across these groups. Moreover, the invariant scalar models suggest that testing groups differences for gender, social class, and income is possible because individual items do not bias subscale scores. Therefore, although this was not in the scope of the current study, future studies might explore whether there are mean differences among these groups and attempt to explain these differences.

Finally, the subscales of the T-SUS demonstrated construct validity by correlating in the expected direction with other variables. For example, pay satisfaction had a large negative correlation with underpayment (−.47) and a very large negative correlation with poverty wage employment (−.69), which demonstrates their concurrent validity. Moreover, all underemployment subscales, except for hours underemployment, had negative relations to meaningful work and job satisfaction. This supports the broad contention that underemployment may erode job attitudes and general well-being, which support validity (e.g., Allan et al., 2019). Hours underemployment not relating to meaningful work and job satisfaction diverges from the scale development paper, which found small to moderate negative correlations between hours underemployment and these variables (Allan

Table 4. Correlations and Descriptive Statistics for the Turkish version of the Subjective Underemployment Scales (T-SUS).

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Pay	1											
2. Status	.58**	1										
3. Hours	.22**	.16**	1									
4. Temporary work	.26**	.23**	.43**	1								
5. Field	.27**	.28**	.25**	.59**	1							
6. Poverty wage	.52**	.41**	.20**	.38**	.38**	1						
7. Total T-SUS	.76**	.69**	.50**	.67**	.66**	.75**	1					
8. Overqualification	.23**	.37**	.14**	.28**	.53**	.34**	.47**	1				
9. Withdrawal	.23**	.25**	.17**	.40**	.32**	.26**	.39**	.24**	1			
10. Job satisfaction	-.23**	-.31**	-.06	-.35**	-.43**	-.34**	-.43**	-.36**	-.43**	1		
11. Pay satisfaction	-.47**	-.40**	-.12**	-.34**	-.29**	-.69**	-.60**	-.21**	-.24**	.44**	1	
12. Meaningful work	-.20**	-.26**	-.05	-.19**	-.30**	-.26**	-.30**	-.27**	-.26**	.53**	.35**	1
Mean	29.23	24.57	12.12	11.12	13.02	21.71	111.77	29.65	5.70	31.62	12.47	36.27
Standard deviation	13.49	11.38	8.30	9.02	10.23	12.51	44.30	13.29	3.35	11.93	8.09	10.10

*$p < .05$, **$p < .01$.

et al., 2017). This result is again likely due to that large proportion of the sample in the current study with full-time work. This likely restricted the variance and led to lower correlations. When we compare the correlation coefficients of the current study with the original validation study, T-SUS total score displays similar coefficients with job satisfaction (−.43 vs −.44), pay satisfaction (−.60 vs −.64), and meaningful work (−.30 vs −.39). Moreover, the correlation between withdrawal intention and SUS total score in both studies (.39 vs .60) was also shown significant and positive coefficients. Finally, all underemployment subscales had small to moderate positive relations with withdrawal intentions, indicating that people who are underemployed are more likely to want to leave their current position. This has potential implications for organizations trying to reduce turnover.

Broadly, this study adds to a literature base of underemployment in Turkey. Many existing studies on underemployment in Turkey have used objective measures or focused on one or two dimensions of underemployment. For example, studies have operationalized underemployment as a mismatch between ideal and real hours worked, overeducation, or field mismatch (Habibi, 2017; Susanli, 2017). Others have measured perceived overqualification (Erdogan & Bauer, 2009) or several different forms of underemployment (Tasci, 2005). The T-SUS provides a critical tool to develop and extend this research, both providing a subjective measure of underemployment and measuring the full range of underemployed experiences. We also contributed to this literature by associating underemployment with job attitudes specifically in a Turkish context.

Implications for Practice

Given the context of the labor market in Turkey, findings of the present study not only to facilitate research on underemployment in Turkey but also to understand the domains of underemployment and how they relate to job attitudes. The findings of the current study also provide some initial implications for mental health professionals like counselors and psychologists in Turkey. Professionals may find the scales useful when assisting Turkish individuals who contend with concerns in their work lives. Specifically, practitioners may decide whether their clients experience any kind of underemployment by using the Turkish version of the SUS in their counseling sessions. Thus, practitioners can adapt their interventions based on the results of their assessment. In addition, after determining the extent of underemployment of clients, they can be strengthened by gaining new skills.

Consistent with social justice-oriented scholars (e.g., Blustein, 2013; Duffy et al., 2016), we emphasize that a social justice agenda should be clearly integrated into individual and systemic level psychological interventions. Accordingly, T-SUS can be utilized as a tool to engage clients into the debate around; this can be a way to raise their awareness of the influences of contextual and social justice issues on working lives and general well-being. Hence, T-SUS possibly functions as a beneficial practical instrument to promote social justice-oriented psychological interventions.

Limitations and Future Directions

First, while the sample was diverse in terms of occupations and ages, participants were mostly well-educated and worked full-time. This may have decreased the fit of the models because of underrepresentation or overrepresentation of certain forms of underemployment. Future studies may validate or adapt the T-SUS in different subpopulations within Turkey, such as those with comparatively lower education levels. Second, we took an existing scale developed in the US and validated it in a Turkish context. While there is no explicit reason to suspect underemployment is structured differently in Turkey than the US and existing research in Turkey has used similar operationalizations to US-based research (e.g., Tasci, 2005), it is possible that scale development from the ground up in a Turkish context may have yielded different results.

For example, in the Turkish cultural context, workers may put different emphasis on certain forms of underemployment over others or experience different culturally-relevant forms of under-employment. Both OECD (2018) and European Commission (2019) reports point out the prevalence of informal employment in Turkey. Only 40% of the male working-age and 15% of the female working-age populations are formally employed (OECD, 2018) and the percent of informal employ-ment has been around 33% since 2015 (EC, 2019). Given that informality continues to be one of the major problems in Turkish labor market, employees in Turkey may place greater emphasis on underpayment. Despite considerable changes in the traditional values of Turkish society, Turkish people still have traditional gender roles (Mocan-Aydin, 2000). For example, today men are still regarded as the main bread-earner of the family and a young man needs to have a job to get married and to get respected by other people in the society. In addition, the employment rate of the working-age population in Turkey remains the lowest among the OECD countries. As a result, both high rates of unemployment and traditional gender roles force Turkish people to accept jobs out of their fields of study, which may also lead to more emphasis on field underemployment. Therefore, in addition to validating the T-SUS in different subpopulations within Turkey, future qualitative studies may provide insight into how underemployment is specifically experienced and constructed in this context.

Finally, the current study was cross-sectional, and as a result, we were not able to examine test-retest reliability or establish longitudinal predictive validity. While this study provides a starting place for this research, future studies should examine the T-SUS with longitudinal studies and include a wider range of invariance tests.

Conclusion

As underemployment becomes more of an issue across the globe (ILO, 2019), researchers are beginning to focus on its antecedents and consequences for workers. A critical part of this work is developing and translating multidimensional underemployment scales in different national and linguistic contexts. This will allow cross-cultural studies, an exploration of underemployment within different contexts, and provide an empirical base for underemployment interventions. In the current study, we contributed to this work by validating the T-SUS. This research not only provides a tool for researchers but also corroborates several existing lines of evidence in this area, including that the components of underemployment are relatively independent and predict various job attitudes.

Appendix

Table A1. English and Turkish Items of the Subjective Underemployment Scales.

Subjective Underemployment Scales	Öznel Eksik İstihdam Öleg±i	Factor loadings
Underpayment	*Düşük ücret*	
1. My pay is less than other people with my qualifications.	1. Aldıg±ım ücret benimle aynı niteliklere sahip olan insanlarınkinden daha az.	.87
2. I am paid less than those with similar credentials.	2. Benimle benzer yeterliklere sahip olanlardan daha az ücret alıyorum.	.88

(continued)

Table A1. (continued)

Subjective Underemployment Scales	Öznel Eksik İstihdam Öleg±i	Factor loadings
3. I am underpaid compared to those with my level of knowledge.	3. Benimle aynı bilgi düzeyine sahip olanlara kıyasla daha düşük ücret alıyorum.	.89
4. I earn less than people with similar skills.	4. Benimle benzer becerilere sahip olan insanlardan daha az kazanıyorum.	.92
5. I make less than others with my level of education.	5. Benimle aynı eg±itim seviyesine sahip kişilerden daha az kazanıyorum.	.88
6. My pay is lower than others with my level of experience.	6. Aldıg±ım ücret benimle aynı deneyime sahip olan kişilerinkinden daha düşük.	.87
7. I earn less than others with my level of ability.	7. Benimle aynı yetenek düzeyine sahip olan kişilerden daha az kazanıyorum.	92
Status discrepancy	**Statü uyuşmazlıg±ı**	
8. My status at work is lower than I deserve.	8. İş yerindeki statüm hak ettig±imden daha düşüktür.	.77
9. I deserve a higher position in my company.	9. ´alıştıg±ım kuruluşta daha yüksek bir mevkide olmayı hak ediyorum.	.89
10. If it were up to me, my position at work would be higher.	10. Eg±er bana kalsaydı iş yerindeki mevkiim daha yüksek olurdu.	.89
11. My rank at work is less than it should be for someone with my ability.	11. İş yerindeki kademem benim kabiliyetimdeki birisi iin olması gerekenden daha düşük.	.90
12. I deserve a higher position at work given my level of education.	12. Eg±itim seviyeme göre iş yerinde daha yüksek bir mevkide olmayı hak ediyorum.	.87
13. Given my credentials, I should have a higher position at work.	13. Kişisel yeterliklerim dikkate alındıg±ında iş yerinde daha yüksek bir mevkie sahip olmalıyım.	.92
Hours discrepancy	**Saat uyuşmazlıg±ı**	
14. I need to find a job that allows me to work more hours.	14. Daha fazla saat alışmamı sag±layacak bir iş bulmam gerekiyor.	.45
15. I work fewer hours than I need.	15. İhtiyacım olandan daha az saat alışıyorum.	.79
16. I work too few hours.	16. ´ok az saat alışıyorum.	.85
17. I do not work enough hours.	17. Saat olarak yeterince alışmıyorum.	.83
18. I would work more hours if I could.	18. İmkânım olsaydı daha fazla saat alışırdım.	.69
19. The number of hours I work is not enough.	19. ´alıştıg±ım saat sayısı yeterli deg±il.	.76
Involuntary temporary work	**İstemsiz geici iş**	
20. My job is temporary, but I want a permanent position.	20. Geici bir işte alışıyorum fakat kalıcı bir pozisyonda alışmak isterim.	.75
21. I work in temporary positions, but I would prefer not to.	21. Geici işlerde alışıyorum fakat böyle olmamasını tercih ederdim.	.77
22. I take short-term jobs because I have to.	22. ´alışmak zorunda oldug±um iin kısa süreli işlere giriyorum.	.89
23. I work in a temporary position, because I cannot find a permanent job.	23. Kalıcı bir iş bulamadıg±ım iin geici bir pozisyonda alışıyorum.	.90
24. I am forced to take temporary jobs.	24. Geici işlerde alışmak zorunda kalıyorum.	.88
25. I cannot find a permanent position.	25. Kalıcı bir iş bulamıyorum.	.80
Field	**´alışma alanı**	
26. I am forced to work outside my desired field.	26. İstedig±im alanın dışında alışmak zorunda kalıyorum.	.76
27. I had to take a job outside of my field.	27. Kendi alanımın dışında bir işe girmek zorunda kaldım.	.83

Table A1. (continued)

Subjective Underemployment Scales	Öznel Eksik İstihdam Öleg±i	Factor loadings
28. I cannot get a job related to my education.	28. Eg±itimimle ilgili bir iş bulamıyorum.	.89
29. I am unable to work in a job related to my formal training.	29. Asıl eg±itimimle ilgili bir işte alışamıyorum.	.88
30. I was compelled to take a job unrelated to my education.	30. Eg±itimimle ilgili olmayan bir işte alışmaya mecbur kaldım.	.86
31. I want to work in a different field, but there are no jobs available.	31. Farklı bir alanda alışmak istiyorum fakat mevcut bir iş imkânı yok.	.71
Poverty wage employment	*Yoksulluk ücretli istihdam*	
32. My pay is not enough to live on.	32. Aldıg±ım ücret yaşamımı sürdürmek iin yeterli deg±il.	.85
33. The income from my job is not enough.	33. İşimden elde ettig±im gelir yeterli deg±il.	.90
34. I barely earn enough to survive.	34. Hayatta kalmama yetecek kadarını zar zor kazanıyorum.	.86
35. Despite efforts at work, my income is too small.	35. İş yerindeki abalarıma rag±men, gelirim ok az.	.89
36. I do not earn enough, even though I have a job.	36. Bir işim olmasına rag±men, yeterince kazanmıyorum.	.94
37. My job does not allow me to make a decent living.	37. Sahip oldug±um iş iyi bir yaşam sürmeme izin vermiyor.	.86

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