



Validation of the Employment Hope Scale (EHS) among summer youth employment program participants

Philip Young P. Hong^{a,*}, Rana Hong^a, Sangmi Choi^b

^a Center for Research on Self-Sufficiency (CROSS), School of Social Work, Loyola University Chicago, 1 E. Pearson St. Maguire Hall 402A, Chicago, IL 60611, USA

^b Dongguk University, Seoul, Republic of Korea



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ABSTRACT

The purpose of this study is to validate the Employment Hope Scale (EHS) among vulnerable youth who are seeking to enter the workforce through a summer youth employment program (SYEP). Hong, Polanin, and Pigott (2012) developed the EHS as a client-centered measure based on its earlier conceptualization from the client focus group interviews resulting in an original delineation of a 24-item six-factor structure. Considering a dearth of reliable measures of youth employment hope, this study examined the applicability of EHS to the youth population by validating it using a confirmatory factor analysis (CFA). The results from a sample of 255 SYEP participants found an 18-item 5-factor EHS under two components: (1) psychological empowerment (self-worth; self-perceived capability) and (2) goal-oriented pathways (self-motivation; utilization of skills and resources; goal-orientation). Convergent, discriminant, and known-groups validity tests also confirmed that the EHS is a valid measure among SYEP participants.

Youth, in general, endeavor to cultivate “core values and meaningful life” as well as seeking “vocational aspirations” (Laser & Nicotera, 2011, p.27). However, inadequate physical, emotional, cognitive, and identity development during the crucial adolescent stage could leave youth much vulnerable to becoming at-risk of continuing a cycle of poverty, mental instability, and often, incarceration. Youth attain developmental tasks successfully when sufficient internal and external support and resources from family, school, and community are available. Likewise, youth deprived of these fundamental resources become vulnerable and are prone to encountering greater challenges in the face of contextual adversity. For instance, vulnerable youth are more likely to become parents earlier or they may choose work over school due to financial strains (Foster, Flanagan, Osgood, & Ruth, 2005).

Although there are debates on how to define vulnerable youth (Tanner, 2007; Taylor, 2011), low-income youth who are receiving public benefits or social services can be considered vulnerable as they tend to struggle in career preparation and development within their impoverished environment. In particular, youth involved in one or two groups of seven systems (i.e., mental health care, foster care, juvenile justice, adult criminal justice, special education, health care, or homeless shelters) are considered vulnerable or at-risk (Foster et al., 2005; Taylor, 2011). While we categorize this type of youth as vulnerable or at-risk, caution is required not to limit their emerging adulthood which is the period of opportunities for exploration.

Because vulnerable youth typically have higher high school drop-out rates than their counterparts or become parents earlier, they often enter the workforce with limited ability (Foster et al., 2005; Holloway & Mulherin, 2004). This situation results in them approaching work, not only with insufficient skills or knowledge, but also lacking vocational aspirations, values, and meaning in life. Consequently, youth who are at-risk tend to lack the motivational strength to overcome a multitude of barriers to employment that block their path to economic self-sufficiency.

The development of vocational aspirations in youth, regarded as employment hope in this paper, is of particular concern to be examined. The government-funded youth employment programs ultimately aim for helping youth achieve self-sufficiency (SS) by having more focus on its outcome—economic self-sufficiency (ESS). SS is a market-based concept in the U.S. social welfare policy that refers to ‘self-reliance, self-supporting, and independence’ with a particular emphasis on employment and financial outcomes (Hong et al., 2012, p.2). On the other hand, psychological self-sufficiency (PSS) is defined as an empowerment process of building individual strength and capacity to move forward within the labor market structure (Hong et al., 2012; Hong, 2013, 2016). PSS embodies the concept of hope with an emphasis of relationship or interdependence for obtaining goal-directed psychological capital (Hong, 2013, 2016). Theoretically, PSS prepares youth to be job-ready with the capacity to sustain jobs once employed.

Many studies have pointed to the importance of non-cognitive skill

* Corresponding author at: Loyola University Chicago, School of Social Work, 820 N. Michigan Ave., Chicago, IL 60611, USA.

E-mail addresses: phong@luc.edu (P.Y.P. Hong), rhong1@luc.edu (R. Hong), schoi@dongguk.edu (S. Choi).

development in impacting one's performance in school and the labor market (Bowles, Gintis, & Osborn, 2001; Chiteji, 2010; Heckman, 2013; Heckman & Rubenstien, 2001; Rosen, Glennie, Dalton, Lennon, & Bozick, 2010). However, a significant gap exists in the literature that analyzes the process of reaching positive academic, vocational, and life outcomes due to scarcity of reliable success 'process' measures. Considering employment hope as one of the key components of PSS (Hong, 2013, 2016; Hong et al., 2012), the main purpose of this research is to validate the Employment Hope Scale (EHS) in a disadvantaged youth sample. EHS is an empowerment-based measure with two key components of psychological empowerment and process of moving toward future goals (Hong et al., 2012). Studying the application of its use for youth will help assess the job-readiness process represented by vocational aspirations in youth. In particular, a valid measure of youth-specific employment hope may help understand the dynamics of PSS—overcoming perceived barriers with employment hope—as a goal-directed psychological capital and a theory of change in youth workforce development (Hong et al., 2019; Hong, Choi, & Key, 2018).

1. Literature

1.1. Youth employment programs

While various employment and training programs targeting vulnerable youth have historically been found to not have much earnings effect (Friedlander, Greenberg, & Robins, 1997), the Workforce Investment Act of 1998 (WIA) was established to increase employment, retention, and earnings among low-skilled youth and adults. Acknowledging that a strong linkage between academic and occupational settings contributes to youth employment, the WIA offered opportunities that disadvantaged youth could apply classroom learning to practical work experience (King, 2004). For youth who have become disengaged with the school system, for instance, they may gain work experience through internships in designated industry clusters that were identified as having a common set of foundational knowledge and skills (U.S. Department of Labor, 2014).

The Workforce Innovation and Opportunity Act (WIOA) passed by the U.S. Congress on July 22, 2014 amended the WIA in several aspects to improve job and career options for jobseekers. One of the core programs in the WIOA Title I was a youth formula program administered by the Department of Labor. In particular, the WIOA enacted the six core provisions that affect labor market outcomes successfully for disadvantaged youth: (1) percentage of youth who are either employed or participating in education or training services during the 2nd quarter after program exit, (2) percentage of youth who are employed or in education or training during the 4th quarter after program exit, (3) median earnings in the 2nd quarter after exiting the program, (4) credential attainment while participating or within 1 year after exiting the program, (5) measurable skill development, and (6) effectiveness in serving employers (U.S. Department of Labor, 2014). The WIOA laid out a broader youth vision that endorses an integrated services delivery system to support in-school and out-of-school youth with the emphasis on performance outcome, unlike the WIA which stressed human capital development (National Association of Workforce Boards, 2014). Regardless of significant changes under the new law, at least 20% of local youth formula grants have continued to fund summer and year-round youth employment, pre-apprenticeship, on-the-job training, or internships among disadvantaged youth.

Community Summer Youth Employment Programs (CYEP) has been widespread throughout many communities to support disadvantaged youth for productive use of their time while gaining viable employment experience during the summer. Communities are typically resourced by numerous local funding sources to offer summer youth employment opportunities and some federal funding streams are allocated through the Temporary Assistance for Needy Families (TANF) funds and WIOA Youth Formula-Funded Grants – i.e., Youth Build, School District Youth Offender Initiative, Categorical Grants, Enhanced Transitional Jobs Demonstration

(ETJD), Young Parents Demonstration, and Green Jobs Innovation Fund (Youth.gov). In Illinois, the programs have been intended to help disadvantaged youth gain skills and receive paid work experience by providing “age-appropriate job training, life skills, counseling, work readiness skills, and supervised meaningful work experience” (The Department of Commerce and Economic Opportunity, 2014, p.3). Eligible youth were defined as in-school youth ages 16–21 and out of school youth ages 16–24 with certain eligibility requirements: (1) recipient of the National Lunch Program, WIA, Food Stamps/SNAP Program, or TANF; and (2) court-involved or at-risk youth or living in the household in which the family income does not exceed 200% of the Federal Poverty Line (FPL) (DCEO, 2014). In the fiscal year 2015, 48 community-based organizations were funded to provide CYEP in Illinois, and they recruited over 4,590 vulnerable youth to participate in the program (IDHS, 2017).

1.2. Employment hope in adolescence

Hope is conspicuously a positive indicator of well-being or success. Research shows that hope is positively correlated with emotional/physical well-being and attachment/interpersonal relationships in children and adolescents (Blake & Norton, 2014; Ciarrochi, Parker, Kashdan, Heaven, & Barkus, 2015; Marques, Lopez, & Pais-Ribeiro, 2011). According to Snyder's hope theory, children's hope consists of “a cognitive set involving the beliefs that one's capabilities to produce workable routes to goals (the pathways component), as well as the self-related beliefs about initiating and sustaining movement toward those goals (the agency component)” (Snyder et al., 1997, p.401; Snyder, 2002). Children view their goals differently than adults, which can predict how they handle certain stressors (Snyder et al., 1997; Snyder, 2002). Those who have a greater sense of hope will be more likely to uncover pathways to achieving goals (Snyder et al., 1997; Snyder, 2002). Snyder's validation study (2003) found that the primary caregiver's positive care and attention given towards fostering children's hopeful thinking as a critical factor to increase the scores in Children's Hope Scale (CHS) in children. CHS was evaluated in diverse samples of African American, Hispanic, and Native American children (Callahan, 2000; Shadlow, Boles, Roberts, & Winston, 2015; Snyder, 2003).

In a similar vein, the impact of holding a positive vision of success has been extensively studied. Oyserman et al. (2004) postulate that a view of future 'possible selves' could be a motivator to self-regulation in regards to academic achievement. In a later study, they confirmed that a student can obtain academic achievement if the student's true identity is congruent with their social identity, thus fully reaching their potential (Oyserman, Bybee, & Terry, 2006). By shifting the paradigm of their self, students gain hope by becoming aware of their potential and ability, which can be further elucidated through the lens of the mental contrasting theory. Originally theorized when assessing children who were underperforming academically, mental contrasting could generate energy toward goals by contrasting a barrier-filled reality with the desired future (Oettingen & Gollwitzer, 2010; Oettingen, Pak, & Schnetter, 2001). This process creates a strong association between the future and reality of potential obstacles to prime themselves for overcoming adversity while working towards attaining the desired future.

While the literature on hope, possible selves, and mental contrasting conceptualizes ways of attaining the desired future, these concepts are inseparable from the structural conditions. Hong, Hodge, and Choi (2015) suggests that the pathways component of hope is truncated by the macrostructural inequities and it needs to be addressed for individual agency component to be fully activated. Franklin (1976) contends that the characterization of black inferiority by scholars and scientists as “stupid, irresponsible, and incapable of maturity” and their institutional “segregation, discrimination, and general degradation” created a sense of helplessness and hopelessness (p.106). Hare (1987) further provides a structural explanation of inequality as alternative to victim-blaming approach to understanding the disadvantaged positions of African American youth. He maintained that “relative academic and

economic failure of black Americans in the American social order is functional, if not intended, given racism and the differential distribution of wealth, power, and privilege in the social structure" (p. 101). Williams (2012) refers to structural inequality found pervasively in social institutions towards social groups defined by race as institutional racism. Critical race theory challenges the legal system and social structures that support this endemic institutional racism (Calmore, 1991). In the context of structural violence in urban communities, Ginwright (2016) suggests that black communities have experienced an erosion of hope in the face of structural injustices and damages to the community. It is proposed to restore a sense of hope and healing to communities plagued by oppression and injustices to counteract the effects of poverty, violence and hopelessness. Although, hope seems to be an individual attribute or a psychological capital, it embodies an internalized assessment of one's structural condition and motivational state within which hope activating youth agents assess the opportunities as either being possible or impossible. Hope cannot operate in a vacuum without considering the structural inequality and institutional racism that shape its content and strength.

A vast array of research has reported correlations between hope and academic or employment outcomes in youth (Day, Hanson, Maltby, Proctor, & Wood, 2010; Diemer & Blustein, 2007; Marques et al., 2011; Snyder et al., 1996). Marques et al. (2011) found that middle school students who had higher levels of hope indicated higher scores of standardized tests than those who had lower levels of hope. Similarly, a longitudinal analysis of college students found that hope was a great predictor of grades than intelligence, personality, and past academic success (Day et al., 2010). The salience and impact of hope on academic success and employment suggests that hope plays a central role in successful career development and future aspirations among youth.

Other scholars have extensively researched the increasingly prevalent role of non-cognitive skills or soft skills as represented by such positive attributes as persistence, self-control, curiosity, conscientiousness, grit, and self-control (Heckman, Stixrud, & Urzua, 2006). In a multitude of studies from various disciplines, researchers found a significant correlation between non-cognitive skills and academic or employment outcomes (Bowles et al., 2001; Chiteji, 2010; Duckworth, Grant, et al., 2011; Duckworth, Peterson, Matthews, & Kelly, 2007; Heckman, 2013; Heckman & Rubenstein, 2001; Rosen et al., 2010). For instance, Heckman and Rubenstein (2001) highlighted that non-cognitive skills are critical indicators of success for academic and employment achievement among General Education Development (GED) test-takers. Duckworth, Grant, Loew, Oettingen, and Gollwitzer (2011) investigated self-regulation strategies that incentivized better performance in children by creating tangible goals and focusing on a positive outcome with an awareness of obstacles. Studies substantiated that the development of non-cognitive skills would lead to reducing the attainment gap between advantaged and disadvantaged youth (e.g., Heckman et al., 2006). Both hope and non-cognitive skills are reported to yield high returns in future educational and employment outcomes. However, the intrinsic positive attributes of hope seem to be a complex driving force towards developing and governing non-cognitive skills because it broadens "the momentary thought-action repertoire" (Hong, 2016, p. 96). Regardless, hope is seldom reflected in the contexts of non-cognitive skills.

Similar to researchers who have noted the central functions of non-cognitive skills, Weigensberg et al. (2012) suggested that there is the 'black box' of factors that make certain workforce development programs more successful. This figurative black box consists of multilevel human capital factors and skill-based components that could increase client success when entering the labor market. Weigensberg et al. (2012) further identified psychological barriers as key factors that constrain employment development.

Informed by aforementioned vocational and positive psychology, (Hong, Sheriff, & Naeger, 2009) conceptualized hope as the main driver in the psychological self-sufficiency (PSS) process in workforce

development. PSS comprises the negative perceived employment barriers and the positive employment hope similar to polar concepts found in mental contrasting (Oettingen et al., 2001). Perceived barriers parallels *dwelling*, which entails reflection on the potential obstacles of the present reality, while employment hope is like *indulging*, which is described as imagining a desired future and mentally elaborating its benefits. While there are conceptual similarities, PSS is switching of barriers to hope by way of a dynamic interface of non-cognitive and cognitive forces that help individuals remain resilient on their path to economic self-sufficiency (ESS) (Hong et al., 2019). Hong (2013)'s PSS theory places hope as the central action step to move towards goals while being aware of individual and structural barriers that may be internalized by individual agents. As such, PSS not only supports the process of reaching the ESS outcomes but also it becomes the centerpiece to lasting economic success. The inside-out, bottom-up system change process espoused by the PSS theory possibly creates the micro to macro transformative structural change (Hong, 2016; Hong, Northcut, Spira, & Hong, 2019).

Both hope and non-cognitive skills are reported to yield high returns in future educational and employment outcomes. Considering the intrinsic positive attributes of hope as a complex driving force towards developing and governing non-cognitive skills, authors present a re-validation study to measure employment hope in disadvantaged youth participating in SYEP. The purpose of this study is to examine the applicability of the Employment Hope Scale (EHS) to a youth sample by validating it using a confirmatory factor analysis (CFA), based on the original theoretical suggestion (Hong, 2013; Hong & Choi, 2013; Hong, Choi, & Polanin, 2014; Hong, Polanin, & Pigott, 2012; Hong et al., 2009).

2. Methods

2.1. Sample and data collection

Participants in this study include 255 youth from low-income families who enrolled in the Summer Youth Employment Program (SYEP) at Metropolitan Family Services (MFS) in Chicago. Funded by the Chicago Department of Family and Support Services, SYEP was administered to offer youth within the Chicago Housing Authority the opportunity to gain work experience and earn summer income while helping local businesses connect with their future workforce. The six-week program, starting July 9 through August 17, 2013 placed youth, ages 14–20, from around Chicago's South Side, in position with more than 40 different employers. All participants had a minimum of 7th grade reading level and were required to work twelve hours per week, for which they received a stipend. They also attended eight hours of group programming each week with activities that focused on work ethics, interpersonal skills, financial literacy, college research, career exploration, and interview skills.

Upon Institutional Review Board approval from the authors' university, the survey instrument was administered by the project staff as part of pre-participation assessment on the orientation day or the first day of the program at the site. The consent for research participation was attained before youth participated in the survey. No monetary reward was provided.

The 255 youth respondents were on average 18.0 years of age (SD = 1.68, range = 16–24) and predominantly female (62.4%). Most participants were African-American (96.8%) with remaining being Hispanic (3.4%). A large portion of the sample participated in the program as youth (95.6%) and others as mentors (4.4%).

2.2. Instruments

Employment Hope Scale (EHS) was originally designed to measure a component of psychological self-sufficiency (PSS) to complement the employment status, welfare receipt status, earnings, and retention as typical economic self-sufficiency (ESS) measures used in workforce development and employment support (Hong et al., 2014; Hong et al., 2012). Hong, Sheriff, and Naeger (2009) defined self-sufficiency as 'a

Table 1
The results of CFA on the EHS model (n = 248).

Model	Description	χ^2 (df)	CFI	NNFI	AIC	RMSEA
1-factor 24-item	Baseline model	2216.056 (252)	0.655	0.589	2360.056	0.175 (0.168–0.182)
6-factor 24-item	Original	730.282 (237)	0.910	0.886	904.141	0.092 (0.084–0.099)
5-factor 18-item	Modified	512.911 (125)	0.928	0.902	562.933	0.098 (0.088–0.108)

process of developing psychological strength and making a goal-oriented progression toward realistic financial outcomes,' based on focus group interviews with job-training program participants and service providers. This bottom-up client-centered approach to self-sufficiency found that employment hope (EH) is a dimension of PSS and comprised 6-factors under two components – (1) psychological empowerment (self-worth; self-perceived capability; and future outlook) and (2) process of moving toward future goals (self-motivation; utilization of skills and resources; and goal orientation).

WEN Economic Self-Sufficiency Scale (WEN ESS Scale; Gowdy & Pearlmutter, 1993) was used to measure the multidimensionality of ESS. This continuous measure includes 15 questions that fall under four factors: (1) autonomy and self-determination; (2) financial security and responsibility; (3) well-being of family and self; and (4) basic assets for community living. Each question reflects respondents' assessment of how their financial situation in the past three months allowed them to do certain things that represent ESS—i.e., pay their own way without borrowing from family or friends. Respondents rated each statement on a Likert-type scale ranging from 1 to 5, 1 indicating 'not at all' and 5 indicating 'all the time.' Because the WEN ESS Scale also includes items and factors that are not applicable for all youth in this sample such as 'afford a decent childcare,' we revalidated the measure to better represent the youth population under study.

2.3. Data analysis

The analysis goals of this study were twofold: (1) to examine the latent factor structure of EHS among SYEP participants and (2) to examine the relationship between EH and ESS among this youth sample. To achieve the first goal, a CFA was conducted on the initial 6 factor 24-item EHS. Traditional Chi-Square model-fit statistics were not considered (although reported) due to the large sample size (Meade, Johnson, & Braddy, 2008). Instead, several model-fit indices were used in order to reduce the plausibility of chance fit and increase the robustness of the conclusions: the Root Mean Square Error of Approximation (RMSEA; Steiger & Lind, 1980), the Comparative Fit Index (CFI; Bentler, 1990), the Non-Normed Fit Index (NNFI; Bentler, 1990), and the Akaike Information Criterion (AIC; Akaike, 1987). A value less than 0.08 was considered a good fit for RMSEA (Kline, 2011) and a statistic above 0.90 was considered a good fit (Bentler & Bonett, 1980; Kline, 2011) and above 0.95 an excellent fit (Hu & Bentler, 1999) for both CFI and NNFI. Regarding AIC, the model with the lowest value was preferred. Given the inappropriate model fit, we considered model modification and constructed an alternative theory-based four-factor model.

To achieve the second goal of estimating the convergent and discriminant validity, the authors correlated the EHS with theoretically related and unrelated measures (Rubin & Babbie, 2008). We used AMOS 7.0 to perform the CFA using a maximum likelihood (ML) estimation method. Full information maximum likelihood (FIML) was employed to handle the missing data.

3. Results

3.1. Validation of EHS

CFA on the original six-factor EHS. To test the latent factor structure of the original 6-factor 24-item EHS initially constructed from the focus group study (Hong et al., 2009), this study conducted a CFA. As suggested by Kline (2011), the original 6-factor model was compared with

a baseline 1-factor model where all the items loaded on a general factor. As reported in Table 1, the fit indices indicated that the 6-factor model is significantly better than the baseline model. Although the 6-factor model was superior to the baseline model, the fit indices of the model showed a lack of fit (CFI = 0.910; NNFI = 0.886; RMSEA = 0.092), as presented in Table 1. Given that the initial 6-factor EHS failed to produce a significant fit, the authors considered a model modification.

3.2. Modification process of EHS: From a 6-factor model to a 5-factor model

Given insufficient model fit, the authors first considered modification indices with the understanding that allowing some residuals to covary would improve model fit. Decisions regarding whether to follow the modification indices were based on theoretical considerations of item and scale content, and there is no theoretical reason to assume any relationship among residuals; thus we did not allow residuals to covary.

Instead, we modified the factor structure by deleting 4 items with low factor loadings below 0.7 – items 7, 10, 12, and 24 – which resulted in a 6-factor 20-item measure (see Table 2). By deleting 4 items, the future outlook factor ended up with only two items 9 and 11. The authors decided not to include the future outlook factor in the modified EHS, considering that its content overlapped with that found in the goal-orientation factor. As a result, the two future outlook factor items were deleted and consequently a 5-factor 18-item structure under two components: (1) psychological empowerment (self-worth – 4 items; self-perceived capabilities – 3 items) and (2) Goal-oriented pathways (self-motivation-4 items; utilization of skills and resources – 4 items; and goal orientation – 3 items).

The model modification is illustrated in Figure 1. The modified 5-factor 18-item model increased the fit substantially compared to the original 6-factor 24-item model (CFI = 0.928; NNFI = 0.902; AIC = 562.933; RMSEA = 0.098), as presented in Table 1.

This result demonstrated that the modified 5-factor 18-item model explained the data better than the other two models. An analysis of the items indicated significant loadings on each factor (see Table 2). Given the relative increase in model fit and significant item loadings, the authors discontinued the model-building process. The model comparison was presented in Figure 1.

3.3. CFA on the original 4-factor ESS

A CFA was conducted to test the latent factor structure of the original 4-factor 15-item ESS. The original 4-factor model was compared with a baseline 1-factor model. Findings suggested that the fit indices in the 4-factor model is significantly better than those of the baseline model (see Table 3). However, the fit indices of the 4-factor model had a less than adequate fit (CFI = .866; NNFI = .808; RMSEA = .100) and we followed a model modification procedure. The model was modified by deleting 4 items with low factor loadings below .7 – items 10, 12, 14, and 25 – resulting in a modified 2-factor 11-item model (see Table 4). This improved the fit in comparison to the original 4-factor 15-item model (CFI = .939; NNFI = .907; AIC = 170.00; RMSEA = .074), as presented in Table 3.

3.4. Descriptive statistics

Table 5 shows the descriptive statistics, correlations, and coefficient alphas for the latent constructs of EHS. As expected, the correlations between EHS sub-constructs and ESS sub-constructs were positive and

Table 2
Standardized factor loadings: the original 6-factor 24-item model vs. modified 5-factor 18-item model.

	Original	Modified
Psychological empowerment		
Self-worth		
1. Thinking about working, I feel confident about myself	0.788	0.785
2. I feel that I am good enough for any jobs out there.	0.741	0.738
3. When working or looking for a job, I am respectful toward who I am.	0.909	0.911
4. I am worthy of working in a good job	0.948	0.948
Self-perceived capability		
5. I am capable of working in a good job	0.929	0.938
6. I have the strength to overcome any obstacles when it comes to working	0.854	0.849
7. I can work in any job I want	0.569	–
8. I am good at doing anything in the job if I set my mind to it	0.843	0.826
Future outlook		
9. I feel positive about how I will do in my future job situation	0.970	–
10. I don't worry about falling behind bills in my future job	0.631	–
11. I am going to be working in a career job	0.747	–
12. I will be in a better position in my future job than where I am now	0.673	–
Goal-oriented Pathways		
Self-motivation		
13. I am able to tell myself to take steps toward reaching career goals	0.854	0.854
14. I am committed to reaching my career goals.	0.879	0.881
15. I feel energized when I think about future achievement with my job.	0.877	0.874
16. I am willing to give my best effort to reach my career goals	0.890	0.891
Utilization of skills and resources		
17. I am aware of what my skills are to be employed in a good job	0.853	0.853
18. I am aware of what my resources are to be employed in a good job	0.799	0.798
19. I am able to utilize my skills to move toward career goals	0.919	0.919
20. I am able to utilize my resources to move toward career goals	0.865	0.865
Goal-orientation		
21. I am on the road toward my career goals	0.824	0.813
22. I am in the process of moving forward toward reaching my goals	0.830	0.816
23. Even if I am not able to achieve my financial goals right away, I will find a way to get there.	0.737	0.750
24. My current path will take me to where I need to be in my career.	0.614	–
Standardized factor loadings from 2nd order factor to 1st order factor		
Psychological motivation → Self-worth	0.984	0.997
Psychological motivation → Self-perceived capability	1.024	1.015
Psychological motivation → Future outlook	0.896	–
Goal-oriented Pathways → Self-motivation	0.994	0.998
Goal-oriented Pathways → Utilization of skills and resources	0.951	0.948
Goal-oriented Pathways → Goal-orientation	0.921	0.934

Note. Parameter estimates are unstandardized values. Standardized values are given in parenthesis. All the estimates are statistically significant at the 0.001 level.

statistically significant. We also examined the Cronbach's alpha coefficient to determine the reliability of EHS and ESS. As presented in Table 5, coefficient alphas of the five factors of EHS – self-worth, self-perceived capability, self-motivation, utilization of skills and resources, and goal orientation subscales – were 0.912, 0.905, 0.927, 0.913, and 0.795 respectively. And coefficient alphas of the two factors of ESS – financial stability and meeting basic needs – were 0.740 and 0.854.

3.5. Construct validity

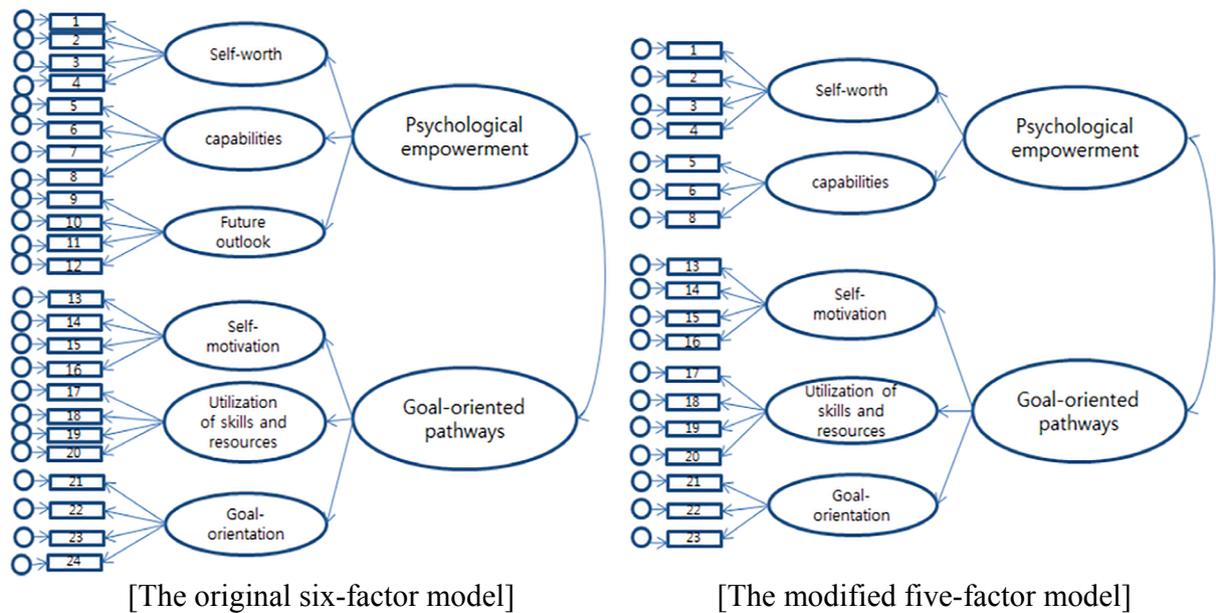
In order to test for construct validity, the convergent validity evidence was gathered by testing the correlation between two theoretically related measures, while the discriminant validity evidence was gathered by correlating two theoretically unrelated measures (Rubin & Babbie, 2008). To test for convergent validity, EHS was hypothesized to be positively correlated with child hope (Snyder et al., 1997), ESS (Gowdy & Pearlmutter, 1993) and self-efficacy (Chen, Gully, & Eden, 2001). As illustrated in Table 5, the results revealed strong convergent validity evidence for EHS, with all its subscales of having statistically significant positive correlation with self-efficacy ($r > 0.448, p < 0.01$), child hope ($r > 0.467, p < 0.01$), and ESS ($r > 0.165, p < 0.01$). We hypothesized that EHS will have no relationship with gender to test for discriminant validity (Bryant & Cvengeos, 2004). The discriminant validity evidence was found with non-significant correlation results between all the subscales of EHS and gender ($-0.024 < r < 0.030, p > 0.1$). Another form of construct validity was tested using the known-groups approach between SYEP participants who

discontinued and completed the program (see Table 6). As hypothesized, students who completed the program demonstrated higher EHS scores compared to their discontinued counterpart. In particular, the independent sample *t*-test result showed that the mean difference was statistically significant between the two groups for EHS factors self-perceived capabilities and self-motivation.

4. Discussion and conclusion

This study validated the factor structure of the Employment Hope Scale (EHS) among participants in a summer youth employment program (SYEP). Given lack of adequate model fit (NNFI = 0.886), the original 6-factor 24 item model of EHS had to be modified to a 5-factor 18-item model – self-worth (items 1–4), self-perceived capability (items 5–8), self-motivation (items 13–16), utilization of skills and resources (items 17–20), and goal-orientation (items 21–23). Our findings provided robust evidence of convergent validity with all the subscales of EHS having a strong positive correlation with self-efficacy, child hope, and ESS. The discriminant validity evidence was found with non-significant correlations between all the subscales of EHS and gender. Known-groups validity was tested and confirmed with evidence of higher EHS scores among the completed group compared to its discontinued counterpart.

The findings highlight the applicability of EHS to measure youth employment hope during their job training participation or education. By accurately assessing the level of employment hope, job training specialists and coaches could not only measure the state of job-



Note. Parameter estimates are unstandardized values. Standardized values are given in parenthesis. All the estimates are statistically significant at the .001 level.

Figure 1. Model modification process: From a 6-factor to a 5-factor model.

Table 3
The results of CFA on the ESS (n = 248).

Model	Description	χ^2 (df)	CFI	NNFI	AIC	RMSEA
1-factor 15-item	Baseline model	314.562 (90)	0.855	0.807	404.562	0.100 (0.088–0.113)
4-factor 15-item	Original	292.887 (84)	0.866	0.808	394.887	0.100 (0.088–0.113)
2-factor 11-item	Modified	102.000 (43)	0.939	0.907	170.000	0.074 (0.056–0.093)

Table 4
Standardized factor loadings: the original four-factor 15-item model vs. modified 2-factor 11-item model.

	Original	Modified	
		Financial stability	Meeting basic needs
Autonomy and self-determination			
2. Do what I want to do, when I want to do	0.430	0.510	
8. Afford to take trips	0.639		0.722
9. Buy “extras” for my family and myself	0.745		0.724
10. Pursue my own interests and goals	0.736		
12. Put money in a savings account	0.735		
Financial security and responsibility			
1. Meet my financial obligations	0.526	0.554	
4. Pay my own way without borrowing from family or friends	0.713	0.817	
13. Stay on a budget	0.686	0.570	
14. Make payments on my debts	0.720		
Family and self-wellbeing			
7. Buy the amount and kind of food I like	-0.660		0.704
11. Get health care for myself and my family when needed	-0.649		0.640
15. Afford decent child care	0.022		
Basic assets for community living			
3. Be free from government assistance programs	0.489	0.580	
5. Afford to have a reliable car	0.714		0.720
6. Afford to have decent housing	0.756		0.750

readiness of youth but also successfully identify the areas that youth need further help in preparing for during training and education. Youth workforce development programs and services will benefit from adopting this scale by focusing on key components of EHS to strengthen vocational aspirations in youth. Furthermore, validation of this measure with a predominantly low-income African American youth population

may provide the context for use for other vulnerable, at-risk youth.

There are, however, some limitations to the current study. The follow up survey data were not available for discontinuing youth while it could have served as information whether decrease in the EHS score contributed to discontinuation in SYEP. Moreover, since SYEP provides employment experiences for everyone admitted into the program, EHS in

Table 5
Descriptive, bivariate statistics and coefficient alphas of EHS (n = 248).

	M (SD)	Range	1	2	3	4	5	6	7
1 Self-worth	8.82 (1.90)	0.75–10.00	(0.912)						
2 Self-perceived capability	8.89 (1.81)	0.67–10.00	0.889**	(0.905)					
3 Self-motivation	9.23 (1.40)	1.00–10.00	0.607**	0.618**	(0.927)				
4 Utilization of skills & resources	8.89 (1.48)	0.50–10.00	0.561**	0.558*	0.854**	(0.913)			
5 Goal-orientation	8.96 (1.42)	2.33–10.00	0.501**	0.478**	0.797**	0.747**	(0.795)		
6 Financial stability	3.08 (0.90)	1.00–4.80	0.221**	0.211**	0.240**	0.302**	0.252**	(0.740)	
7 Meeting basic needs	3.14 (1.05)	1.00–5.00	0.112	0.069	0.185**	0.222**	0.232**	0.647**	(0.854)
8 Self-efficacy	4.29 (0.59)	2.00–5.00	0.452**	0.454**	0.649**	0.605**	0.585**	0.343**	0.204**
9 Child hope	4.75 (0.79)	2.50–6.00	0.468**	0.466**	0.618**	0.594**	0.616**	0.344**	0.217**
10 Gender	–	–	–0.010	–0.022	0.009	0.013	0.002	–0.085	–0.028

Note. **p < 0.01.

Table 6
Result of independent sample t-test between SYEP participants who discontinued and completed.

		M (sd)	Std. Error Mean	Sig
Self-worth	Discontinued (n = 73)	8.42 (2.30)	0.27	0.064 +
	Completed (n = 174)	8.98 (1.70)	0.13	
Self-perceived capabilities	Discontinued (n = 73)	8.45 (2.22)	0.26	0.032*
	Completed (n = 174)	9.07 (1.59)	0.12	
Self-motivation	Discontinued (n = 73)	8.93 (1.61)	0.19	0.030*
	Completed (n = 174)	9.39 (1.19)	0.09	
Utilization of skills and resources	Discontinued (n = 73)	8.67 (1.68)	0.20	0.119
	Completed (n = 174)	9.01 (1.33)	0.10	
Goal-orientation	Discontinued (n = 73)	8.68 (1.72)	0.20	0.081 +
	Completed (n = 174)	9.08 (1.27)	0.10	

this study is not applied to examine the process becoming job ready (Hong, 2013) from pre-employment to post-employment. Notably, this study focused on a limited sample of youth who successfully got into the summer employment program. Future research examining the external validity of the measure with larger, different samples will help test the scale’s sensitivity to differentiated skill sets, motivations, and individual and structural barriers they face. It would be interesting to see how EHS could inform the development of an academic / education hope scale to target hope to target goals that the youth are committed to pursuing.

Despite these limitations, EHS has the potential to be a useful tool for policymakers in youth workforce development to assess and incorporate it as a measure that captures vocational aspirations that all youth will need. EHS provides a predictive indicator of youth employment success and may lead to future innovative youth workforce development programs based on the PSS framework – i.e., Transforming Impossible into Possible (TIP) program (Hong, 2016) – that could contribute to fostering youth-centered empowerment towards achieving academic and economic success. Specifically, the study implies that a formidable intervention for disadvantaged youth should target strengthening character traits (Heckman, 2013; Tough, 2012) rather than cognitive strategies as character traits promote the development of cognition in adolescents but not vice versa. A further extension of applying EHS to the youth population allows for closer examination of how the PSS process in youth may be more particularistic compared to that in adults. The movement toward a greater understanding of how PSS occurs over the crucial adolescent period opens a new field of research on a ‘process’ oriented development rather than an ‘outcome’ based approach, which could serve as sufficient, meaningful and highly predictive of youth’s abilities and success at an important juncture in their life-shaping development.

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Ethical approval

This study was approved by the ethics committee or institutional review board (IRB) of Loyola University Chicago.

CRedit authorship contribution statement

Philip Young P. Hong: Conceptualization, Data curation, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Writing - original draft, Writing - review & editing. **Rana Hong:** Conceptualization, Writing - original draft, Writing - review & editing. **Sangmi Choi:** Formal analysis, Validation, Visualization, Writing - original draft.

Declaration of Competing Interest

Authors declare that they have no potential conflict of interest that could have direct influence or impart bias on the work and that they maintain the integrity and transparency in data analysis and research process.

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