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ABSTRACT
This article examines the identity horizons of postsecondary students in Finland—a country in which social welfare provisions buffer education-to-work transitions—comparing their identity horizons to those previously reported for U.S. and Japanese students. Confirmatory factor analyses revealed scalar invariance of the Finnish version of the Identity Horizons Scales with the English and Japanese versions. Latent mean comparisons found that Finnish students had the broadest educational and work horizons, and the lowest education-to-work identity anxiety. Finnish men reported lower levels of educational horizons and higher levels of identity anxiety than Finnish women, replicating previous findings. Social class differences were also detected, with higher levels of identity anxiety and narrower educational horizons among those whose parents had no post-secondary education. Based on the apparent impacts on identity development of the different educational policies in the three countries, results are discussed in terms of policy implications supporting more effective education-to-work transitions.

KEYWORDS
Anxiety; cross-cultural comparisons; educational and occupational attainment; identity formation; identity horizons

Identity researchers from the outset have shown an interest in identity formation among college and university students (e.g., Marcia, 1966; Waterman & Waterman, 1971). As the transition to adulthood has become prolonged over the past few decades, attention has shifted to the long-term implications of identity formation for various adulthood transitions (e.g., Fadjukoff, Pulkkinen, & Kokko, 2016), including transitions from higher education settings to the workplace (e.g., Luyckx, De Witte, & Goossens, 2011; Luyckx, Schwartz, Goossens, & Pollock, 2008; Skorikov & Vondracek, 2010). At the same time, in addition to long-standing concerns regarding gender differences (e.g., Anthis, Dunkel, & Anderson, 2004; Archer, 1989; Cramer, 2000) and the effects of social class (e.g., Aries & Seider, 2007; Phillips & Pittman, 2003; Thomas & Azmitia, 2014), attention has been turning to cultural variations in these transitions (e.g., Schwartz, 2012; Smith, 2010; Sugimura & Mizokami, 2012; Yuan & Ngai, 2016). It is quite likely that countries differ considerably in terms of the quality of the support systems they provide for lengthy transitions to the workplace, but little empirical research is available in terms of how identity formation can be supported during these transitions at the macro societal level (cf. Côté, 2006; Côté & Allahar, 1996).

One recent approach that subsumes these concerns is the identity horizons model (IHM; Côté & Levine, 2016), which proposes that people’s identity horizons play an important role in how they...
perceive their future options in making life-altering choices as they transition to adulthood. These decisions include pursuing higher levels of education and careers that might require significant life changes. As the transition to adulthood has become more individualized in many cultures, this decision-making task has become more problematic for many people (e.g., Côté, 2002; Helve, 2012; Oyserman & Destin, 2010).

Based on the IHM, Côté et al. (2015) introduced the Identity Horizons Scale (IHS), which measures educational horizons, work horizons, and education-to-work identity anxieties among (four-year) undergraduates and (two-year) college students. Broader educational horizons include beliefs that higher levels of education are beneficial for personal and intellectual development, even if they require transformative experiences and major life changes. Similarly, broader work horizons include a willingness to take on an interesting and rewarding career, even if such an option would not be supported by parents or peers, and required moving from where the person grew up. The IHS also operationalizes feelings of insecurity that can undermine broad horizons—anxieties about possible options for work identity and educational identity. These anxieties involve fears about possible unpleasant experiences with peers and parents, as well as unwelcome identity changes, if the person pursued higher levels of education or a higher-level career.

The IHM is based on the premise that structure and agency interact in myriad ways that are consistent with developmental contextualism (e.g., Lerner & Kauffman, 1985). In reference to social class, the model proposes that the lower a person’s social class origins, the more likely the experience of anxieties that undermine broader horizons, in part because peers and parents may have narrow horizons and may not support decisions that would take students beyond those horizons. Conversely, those from higher social class origins may be more likely to have broader horizons, and fewer anxieties, in terms of parental influences and better economic opportunities. However, even within middle-class samples, wide variations in horizons and anxieties can be expected based on structure-agency interactions associated with proximal and distal factors. The proximal effects of expectations associated with gender and ethnicity may be relevant, as may agentic factors such as proactive academic motivations and active engagement in courses. Identity horizons should also be affected distally by social institutions such as education, the economy, and the polity.

Côté et al. (2015) developed the IHS items with wording specifically relevant to college and undergraduate students, testing it with samples in the United States and Japan, finding that the IHM can be applied in both countries and cultures. The cross-cultural empirical comparison was undertaken because of theoretical concerns in the literature that Western formulations of self and identity development may be ethnocentric, biased by a Western emphasis on high degrees of individualism (e.g., Markus & Kitayama, 1991). Allaying these concerns with respect to the IHM, Côté et al. (2015) found an invariant measurement model with a subset of IHS items (13 of 20 items) and a comparable structural model characterizing the correlations among the three IHS subscales. They also observed significant correlations of the IHS subscales with established measures of identity formation (Berzonsky et al., 2013) and personal agency (Grant & Kraimer, 1999). These latter correlations support the premise of the IHM that educational and work horizons and anxieties are rooted in part in identity formation and personal agency.

This cross-cultural assessment also found, as hypothesized, that the Japanese sample had lower horizons with respect to educational and work prospects, along with higher education-to-work anxieties (Côté et al., 2015). These hypotheses were based on the differences between the two countries’ educational systems (more restricted access to postgraduate studies in Japan) and economic conditions (a long-term economic downturn in Japan along with a decline in the obligation of Japanese employers to provide lifelong employment). In addition, evidence has been reported of an “inward tendency” among Japanese youth. This inward tendency involves a mindset that is more local than global, with a reluctance to travel, study, or move abroad (Fujita, 2014; Nikkei Asian Review, 2013).

Although the overall model was supported in the Japanese context, minor differences in the correlations between the U.S. and Japanese samples on the IHS subscales were found. These findings
were interpreted in terms of the ongoing process by which Japanese culture is blending—on a
generational basis among younger cohorts—its traditional-collectivistic practices, which were rooted
in filial piety and interpersonal obligations, with an emerging individualization of the life course
(Sugimura & Mizokami, 2012). Accordingly, this cultural shift toward individualization may be
creating a greater sense of uncertainty about future educational and work prospects, which is
exacerbated by increased pressures on young Japanese to obtain college and undergraduate creden-
tials to more effectively transition to a workplace that itself is in transition. The sense of personal
consequences currently felt by U.S. students, for whom the individualized life course is common-
place, may be intensified among Japanese students who have fewer role models for undertaking
individualized transitions (Brinton, 2011), a difference that might be associated with the different
mean scores on the IHS subscales.

Côté et al. (2015) also found gender and social class differences in identity horizons. Overall,
men reported narrower educational horizons and greater education-to-work anxiety, replicating
findings from a study of Canadian high school students on which the IHM is based (Côté, 2008;
Côté, Skinkle, & Motte, 2008). An unexpected finding, however, was an interaction effect for
work horizons, with U.S. women reporting the broadest work horizons and Japanese women
reporting the narrowest work horizons, with men from both cultures in between. This finding
was interpreted in terms of the dramatic differences in educational participation and occupa-
tional attainment between U.S. and Japanese women. With respect to social class differences,
Côté et al. (2015) reported that students without parents possessing higher-level credentials
reported lower educational and work horizons and higher education-to-work identity anxiety,
also replicating earlier findings about the greater difficulties faced by first-generation students
(Côté et al., 2008).

Cross-cultural considerations related to Finland

The present study assessed the IHM in Finland, a country with notable educational, cultural, and
political economy differences from Japan and the United States that potentially influence experiences
of the education-to-work transitions of college and university students, and hence identity forma-
tion. At the macro level of the political economy, the Finnish welfare state provides economic
supports for young Finns during their transition from education to work life by providing free
higher education, free health insurance, and guaranteed incomes. These supports are intended to
give all young people a footing for individualized decision making, and are consistent with the
egalitarian Nordic welfare model of economic support for opportunity, independence, and self-
determination among all citizens regardless of social class background (and thus reducing the
potentially restrictive influences of parents’ class origins).

Over the past several decades, the Finnish educational system has been reformed on the basis of
the Nordic welfare model so that society and the individual mutually benefit. In the current system,
human capital is increased because personal insecurities about developing that capital have been
mitigated (cf. Partanen, 2016). The Finnish educational system differs from the systems in the
United States and Japan in several ways that may alleviate the sense of personal risk consequences
associated with the individualization of the life course by providing numerous forms of support and
guidance. Notable features of the Finnish system include: (a) a rigorous primary comprehensive
education (i.e., the same educational experiences for students from all social class backgrounds); (b)
upper secondary vocational and academic tracks that sort students on the basis of abilities and
interests; and (c) a matriculation examination for entrance into universities. For those admitted to
the postsecondary system—which has well-funded universities and polytechnics—after this prepara-
tion and sorting, tuition is free and financial aid is generous. In contrast, the United States and Japan
have tuition fees that are among the highest in the world. Indeed, Japan is classified by the
Organisation for Economic Co-operation and Development (OECD) as a country with high tuition
fees and low student support from public financial aid (OECD, 2011).
Educational policy aims in Finland have evolved over the decades to give everyone the opportunity to study to their fullest capacity, and to encourage everyone to gain a postcompulsory qualification in either a vocational or academic institution. Internationally, the level of education of young Finns is among the world’s highest (DiPrete & Buchmann, 2013; OECD, 2010, 2016). Only about one in six 25- to 34-year-old Finns has no postcompulsory qualification (19–20% of men and 13–14% of women; Tilastokeskus, 2015; Witting, 2014). About 90% of 25- to 34-year-olds have attained at least an upper secondary education.

Because of their more intensive primary and secondary education, Finnish young people start their higher education later than young people in many other countries: the median starting age in tertiary education is 20, and the median age of all students in higher education is 25 (Opiskelijatutkimus, 2014). Two thirds of students take a break of at least one year from studies (before or during current studies). (Military service is compulsory for young Finnish men, with many taking a one-year break from education to fulfill this obligation.) This gap year corresponds with a type of moratorium period identified by Erikson (1968), which provides a break from achievement pressures during which young people can consider their long-term future plans. Indeed, Salmela-Aro (2013) reported that Finnish students who took advantage of such a moratorium period experience lower levels of academic burnout.

Most Finnish postsecondary students are full time (83%), spending on average 32 hours a week studying. One half (48%) are gainfully employed in addition to studying, yet 59% feel they are progressing in their studies as planned (Opiskelijatutkimus, 2014). The average income of a student living independently was 800 euros (a month) in 2013. About half of their income is derived from employment; one third comes from student aid; 8% from parents; and 13% from other sources (Saarenmaa, Saari, & Virtanen, 2010). Finnish research also finds that most students feel confident about the future (Helve, 2013; Villa, 2016). Thus, the higher educational system may be more comfortable for Finnish students than is the case for students in many other countries, providing more of a sense of security and opportunity and less of a source of anxiety.

The workplace into which graduates enter has similarly benign features. A 2012 Finnish governmental initiative to combat youth unemployment and social exclusion includes a social guarantee for young people. The aim is to guarantee every early school leaver a place in the upper secondary school, in vocational education and training, in apprenticeship training, in a youth workshop, or a work placement (including on-the-job training or wage-subsidized work) (Ministry of Education and Culture, 2016). The “right to support” (minimum income) is ensured when students have completed a vocational qualification.

Although the transition from education to work for young Finns can be a time of waiting and uncertainty, as it is internationally, youth employment prospects have become a political question in Europe. And the Finnish situation can be understood in the European context in which policies were developed to mitigate individual risk and consequence (more so than is the case in the North American and Asian contexts). The European Union Strategy 2020’s initiatives on youth and employment (i.e., Youth on the Move and New Skills for New Jobs) represent commitments to improve the qualifications and skills of young people to facilitate their access to the labor market. European policy approaches are also proactive and based on tangible recommendations such as the Youth Guarantee (European Commission, 2010). Thus, although the workplace in Finland has suffered many of the setbacks experienced by other countries over the past few decades, including declines in opportunities in youth labor markets, Finland’s welfare state is more comprehensive than in either the United States or Japan, providing more of an institutional safety net for those making education-to-work transitions and thereby reducing individual risk and consequence. In contrast, a recent 18-country study found that Japanese young people have the most pessimistic outlook of all regarding their career prospects (ManpowerGroup, 2016).
Hypotheses

To evaluate the hypothesized benign role of Finnish culture in the formation of identity horizons, we compared the results of a study conducted in Finland to results reported by Côté et al. (2015) for comparable U.S. and Japanese samples. For education and work horizons, because of the generous supports for education-to-work transitions in Finland, our principal hypothesis is of broader horizons and lower levels of identity anxiety among Finnish postsecondary students than is the case among comparable U.S. and Japanese students. We also hypothesized that the correlations among the IHS subscales will be similar to those found for U.S. students.

With respect to gender differences, men were found in previous research in several countries to have narrower educational horizons and greater levels of education-to-work anxiety (Côté et al., 2015, 2008). As in many other countries, including the United States, Finnish women have recently exceeded men in terms of their participation in higher education whereas Japan still has a relatively low participation rate in higher education for women in comparison to men (about 40% vs. 60%; DiPrete & Buchmann, 2013). Accordingly, we hypothesized that these gender differences will be found in Finland. A caveat regarding this hypothesis, however, comes from a study that found no gender differences in Finland with respect to the academic engagement of secondary and postsecondary students (Tuominen-Soini & Salmela-Aro, 2014). The absence of gender differences in the related construct of academic engagement contrasts with well-established gender differences in academic engagement in countries like the United States and Canada where women show much higher levels of engagement than men (Côté & Allahar, 2011; DiPrete & Buchmann, 2013).

Level of parental education has also been found in previous research to have a bearing on students’ horizons and anxieties. However, given the political economy in which the Finnish educational system is embedded, where efforts have been made to address social class disadvantages and social welfare benefits reduce young people’s economic dependence on their parents, we hypothesize that social class differences will be muted among Finnish students. This hypothesis is supported by Tuominen-Soini and Salmela-Aro (2014), who found no socioeconomic status differences among young Finns in terms of academic engagement and burnout. They concluded that this null finding was “not surprising in the Finnish context and in light of the Nordic welfare policy” (p. 659).

Method

Sample

Data were collected online between March and October 2015 from students at six scientific universities and all 23 Finnish-speaking universities of applied sciences (in all regions) of Finland. Invitations were distributed through university and student union mailing lists. Using this method, 615 undergraduate college students 18 to 24 years old who had not yet completed their programs were recruited (this type of sample was targeted because the wording of the IHS items is designed for the circumstances of this demographic). To obtain fit indices when conducting confirmatory factor analysis (CFA) using Amos 23, it is necessary to eliminate any cases with missing data on all of the measurement items being analyzed. Missing data affected 3% of the cases on the IHS, and appeared to be randomly dispersed. According to Garson (2015, para. 7658), “a rule of thumb is to use listwise deletion when this would lead to elimination of 5% of the sample or less.” Listwise deletion of missing cases produced a sample of 595 students, $M_{\text{age}} = 21.68, SD = 1.46$, with 165 (28%) men and 430 (72%) women. Similar to previous online surveys of Finnish students, gender was the main factor affecting response rate (Helve, 2013; Villa, 2016). Ethnic breakdown for the sample was approximately 97% Finnish (with 3% other).

The results from the Finnish sample are presented in Tables 1 and 2 along with comparable results published by Côté et al. (2015) using two other samples: a U.S. sample of 546 college and
university students 18 to 24 years old, \( M_{\text{age}} = 21.21, \ SD = 1.90, 46\% \) women; and a Japanese sample of 505 college and university students 18 to 24 years old, \( M_{\text{age}} = 20.39, \ SD = 1.43, 51\% \) women.

**Measures**

**IHS**

Because many concepts and terms entail culture-specific connotations, their direct translation can be problematic, including certain concepts differing substantially across cultures (cf. Jowell, 1998). Therefore, the Finnish translation of the IHS was double-checked from the original English version of the questionnaire to ensure overall conceptual equivalence as well as to consider vocabulary equivalence. In the back-translation procedure, the original version of the questionnaire was translated into Finnish and subsequently translated back into English using Google Translate. We repeated this procedure to double-check that the original meaning had been retained. However, back-translation does not guarantee overall conceptual equivalence (Peng, Peterson, & Shyi, 1991). To cross-check for possible translation mistakes and to ensure comprehension of the translated questionnaire among respondents, pilot testing was conducted with five bilingual university students. Their feedback helped to find simpler Finnish sentence structures as well as clear and familiar wording in translation. This double-checking of the translation and piloting the questionnaire indicated that the Finnish students understood the intended meanings.

Following Byrne (2010) and Blunch (2013), two complementary fit indices are most informative for larger samples in assessing measurement models: the comparative fit index (CFI) and the root mean square error of approximation (RMSEA). CFI values greater than .90 represent a reasonable fit, and those greater than .95 denote a good fit. When judging the adequacy of model fit, as degrees of stringency increase for assessments of the measurement model, changes in the CFI and RMSEA greater than .01 suggest that there is a significant change in fit, for better or worse. The RMSEA is complementary to the CFI for larger samples (exceeding 200 cases) because it adjusts the \( \chi^2 \), which becomes unreliable with increasingly large samples. Values less than .08 represent an adequate fit, and those less than .05 signify a close fit.

In the original version of the IHS, 20 items were generated as described by Côté et al. (2015) with specific reference to the conditions affecting postsecondary (undergraduate and community college) students. Five items were created to represent each of four postulated factors: work identity horizons, educational identity horizons, work identity anxiety, and educational identity anxiety. In the English and Japanese language versions, however, factor analyses revealed that three factors better represented the underlying constructs: (1) work identity horizons, (2) educational identity horizons, and (3) a blend of education and work anxiety items renamed “education-to-work identity anxiety.” See Côté et al. (2015) for the original items and the results of exploratory and confirmatory factor analyses leading to the adoption of the 13-item culturally invariant version of the scale used in the present study.

In the present study, CFAs were conducted on the Finnish sample using the default maximum likelihood estimator on the 13-item scale reported by Côté et al. (2015) as culturally invariant. This 13-item scale showed an adequate fit for the Finnish sample, when covariances between three error terms were added. The first covariance improved the CFI from .89 to .90 (RMSEA = .06), the second increased the CFI to .93 (RMSEA = .05), and a third increased the CFI to .94 (RMSEA = .05).

Multigroup CFAs conducted on this measurement model with a dataset in which the items from all three cultural samples were merged (Finnish, U.S., and Japanese) confirmed configural (number of factors) invariance (RMSEA = .03; CFI = .95), as well as metric (factor loading) invariance (RMSEA = .03; CFI = .94). Côté et al. (2015) reported Cronbach’s alphas of .67 (Work Horizons), .81 (Educational Horizons), and .85 (Education-to-Work Identity Anxiety) for the overall sample. For the present Finnish sample, these alphas were, respectively, .55, .76, and .73. Sample items include: “I would take a really good job far from where I grew up” (Work Horizons); “More education beyond my current program would help expand my understanding of the world”
(Educational Horizons); and “Launching a career worries me because it may affect the personal relationships in my present life” (Education-to-Work Identity Anxiety).

**Social class influences: Potential first-generation graduate student status**

Social class was operationalized in terms of parents’ educational level. Although the samples under study were all at the college or undergraduate level, the potential influence of their parents on their future plans was of interest. This interest was based on previous research where students whose parents had no postgraduate credentials had lower educational and work horizons and higher education-to-work identity anxiety (Côté et al., 2015). Students whose parents had no postgraduate education would thus be potential first-generation graduate students if they were to advance to that level.

A dummy variable was used for this proxy of social class: potential first-generation graduate student status (0 = neither parent had a postgraduate education; 1 = at least one parent had a postgraduate education). In the Finnish sample, 27% reported at least one parent who had a postgraduate education (i.e., at least an master’s degree).

**Results**

**Latent mean analysis**

In assessing the cross-cultural comparability of the Finnish version of the IHS, three forms of invariance were examined: configural, metric, and scalar. *Configural invariance* indicates that there are equal numbers of factors, and that each factor is associated with the same items across groups. *Metric invariance* assesses the equivalence of the factor loadings of the items across samples. *Scalar invariance* pertains to whether scores on the items have equivalent meanings in the samples, which is assessed in terms of the item intercepts (Blunch, 2013).

Arbuckle (2013) noted that most sources agree that to make meaningful comparisons of latent means, scalar invariance must be established (in addition to metric invariance) so that there is a degree of confidence that the items have the same meaning for respondents in the different samples. Thus, establishing scalar invariance is important for comparing the means of the latent factors; that is, the means of the summed scores for each computed subscale (see, e.g., Arbuckle, 2013). Assessing measurement invariance across the three language versions of the IHS is also important for judging the cross-cultural validity of the underlying theoretical constructs and empirical measures of them.

The analyses confirming configural and metric invariance are reported above in the Measures subsection. Following Arbuckle (2013), assessing scalar invariance can be undertaken when testing for differences in the means of the latent factors. This is done by constraining the means for the latent factors of one sample to 0 and comparing the samples as pairs. When this is done, Amos output first provides indices for assessing the invariance of intercepts (scalar invariance), and then specifies indices for evaluating potential latent mean differences. If acceptable fit indices are found for intercepts but not means, a significant difference between sample latent means is evident. The following indices were found when the Finnish sample was compared to the U.S., and then to the Japanese, sample in this manner:

- Finnish and U.S.:
  - measurement intercepts: RMSEA = .05; CFI = .91;
  - latent means: RMSEA = .06; CFI = .83.
- Finnish and Japanese:
  - measurement intercepts: RMSEA = .04; CFI = .90 (6 covariances added);
  - latent means: RMSEA = .09; CFI = .52.

In both paired comparisons, the fit indices indicated that the measurement intercepts were sufficiently similar to warrant comparisons of latent means. The drop in the CFIs (.01) when latent
means were examined suggests that there are statistically significant differences between the latent means of the two samples compared.

Table 1 shows the means of the three cultural groups as well as for each gender within each group. To examine these mean differences in more detail, a series of two-way ANOVAs were performed, with each IHS subscale as a dependent variable in turn, and cultural sample and gender as fixed effects. Significant culture and gender effects were found for each subscale, and one interaction term was significant. Student-Newman-Keuls (SNK) multiple range tests were used to assess the significance of cultural sample (three-group) differences and *t* tests were used to examine gender differences (two-group) within each sample.

Consistent with previous research, Finnish men scored higher on the Education-to-Work Identity Anxiety subscale than Finnish women. This gender effect was significant overall among the three samples (partial eta squared, \( \eta^2 = .015 \)), but this difference was significant within culture only for the Finnish and U.S. samples. However, the between-culture differences on this subscale were substantial—with the difference between the Finnish and Japanese samples in the magnitude of 2 to 3 SDs (\( \eta^2 = .350 \)). Although there were gender differences, it should be noted that within the Finnish sample this form of anxiety was very low for both genders, whereas within the Japanese sample men and women reported similarly high levels of this form of anxiety.

The Finnish sample also stands out as scoring highest on the Educational Horizons and Work Horizons subscales, with differences in the magnitude of 1 SD distinguishing it from the Japanese sample. The \( \eta^2 \) in the ANOVA for cultural sample for Work Horizons was substantial (.213), about twice that for Educational Horizons (.104). Gender differences were significant overall for both forms of horizons but stronger for Educational Horizons (\( \eta^2 = .009 \)) than Work Horizons (\( \eta^2 = .002 \)), perhaps because of the significant interaction effect for Work Horizons (\( \eta^2 = .016 \)). This interaction can be seen in the means displayed in Table 1, with Finnish men scoring higher on Work Horizons than Finnish women (as was the case for men vs. women in the Japanese sample), whereas the reverse was true for the U.S. sample where U.S. women scored higher on the Work Horizons subscale than U.S. men.
Table 2 presents three sets of subscale correlations for each cultural sample, broken down by gender within each sample. It can be seen that Finnish men and women show a similar correlational pattern among the IHS subscales, suggesting that the model applies similarly to each gender in Finland. In terms of cultural comparisons, the magnitudes of the correlations for the Finnish sample are generally between those of the Japanese and U.S. samples.

However, two culture-by-gender differences among correlations are noteworthy in Table 2. The most striking contrast between the Finnish and U.S. samples is the nonsignificant correlation between Educational Horizons and Work Horizons for Finnish men ($r = .07$) and the much stronger one for U.S. men ($r = .47$). The difference between these correlations is significant ($z = 4.42$, $p < .001$). Thus, there appears to be no connection between Educational Horizons and Work Horizons for Finnish men, but one for U.S. men that is of moderate effect size. Similarly, the relationship between Educational Horizons and Education-to-Work Identity Anxiety is significantly weaker for Finnish men than U.S. men ($-.16$ vs. $-.39$; $z = 2.52$, $p < .001$).

**Social class influences in the Finnish sample**

To examine social class influences through the proxy of parental education, two-way ANOVAs were performed on the Finnish sample, with potential first-generation graduate student and gender entered as fixed factors, separately on each IHS subscale as the dependent variable. No significant effects were found in any of the three analyses. To determine if any effects of social class could be found for the Finnish sample, we conducted post hoc analyses examining differences among all levels of parental education, including high school or less. Although only a small percentage of the Finnish sample reported having parents with only a high-school education or less (fathers = 16%; mothers = 12%), when compared to the rest of the sample, students whose fathers had only a high school education or less scored significantly lower on the Educational Horizons subscale ($t = 2.22$, $p < .05$) and higher on the Education-to-Work Identity Anxiety subscale ($t = -2.35$, $p < .05$). Similarly, students whose mothers had only a high school education or less had higher Education-to-Work Identity Anxiety scores ($t = -2.67$, $p < .01$).

**Discussion**

In this study, we found that the IHM applies to the Finnish education-to-work context in a manner consistent with the benign institutional supports currently found in Finland. We also found evidence for scalar measurement invariance of the Finnish-language version of the IHS with the English and Japanese versions.

The establishment of scalar invariance on the Finnish version of the IHS allowed for meaningful comparisons of the latent (subscale) means of the Finnish sample with the results reported by Côté et al. (2015) for comparable U.S. and Japanese samples. These comparisons support the IHM, upon which we predicted that the educational and work horizons of the Finnish sample would be broader, and the education-to-work identity anxieties lower, than those in the comparator cultural samples.
The effect sizes of some of these results were rather dramatic, with unusually large mean differences between Finnish and Japanese students on all three IHS subscales, especially education-to-work anxiety. The U.S. students consistently scored midway between the Finnish and Japanese students on the IHS subscales.

The gender differences in the Finnish sample replicate previous research in other countries where men reported higher levels of education-to-work anxiety and lower levels of educational horizons than women. Finnish women’s highest score on educational horizons in all gender-country comparisons is interesting in light of recent findings that Finland is the only OECD country in which 15-year-old women do better in science than men (OECD, 2016). However, contrary to findings for the U.S. sample, Finnish men had broader work horizons than Finnish women (indeed they scored highest of all gender-country groups). Apparently, Finnish women find the educational system more accommodating than the workplace whereas the reverse may be true for Finnish men. This result is surprising in the context of the Nordic welfare state in which gender equality has been the object of considerable policy attention for some time, but it appears to be the case that Finnish men feel freer to change their lives and move geographically for the sake of better employment prospects.

As expected, in the analyses involving a proxy measure of social class background, parental postgraduate educational attainment levels were not related to identity horizons or anxieties (i.e., having one or both parents with a postgraduate education). However, further explorations of data revealed that Finnish students with parents having no college or university experience (i.e., only high school or less) reported higher levels of education-to-work anxiety, along with lower educational horizons (in the case of father’s educational level), than those with parents with a postsecondary education. Apparently, it is necessary to dig deeper in Finnish society to detect the effects of social class on identity horizons. Thus, the effects of social class were still detected in the Finnish sample, but appear not to be as pronounced as the results suggest from Côté et al. (2015) for U.S. and Japanese students, where significant differences were reported for all three subscales between those who had parents with a postgraduate education and those who did not. In this sense, the Finnish welfare state still has not fully achieved its goal of equality of outcomes for all social classes (cf. Kivinen, Hedman, & Kaipainen, 2007).

At the same time, it has never been an assumption of the IHM that all parents from lower social class backgrounds engender identity anxiety among their children. Instead, a distinction was made between two types of intergenerational bonding: restrictive and generative (Côté, 2008). Restrictive intergenerational bonds involve relations with parents in which parents are unsupportive of their children venturing out of familial comfort zones (e.g., being the first in the family to go to a university or to graduate school), thereby fostering anxieties about identity explorations in their children. Generative intergenerational bonds involve relationships that are supportive of children moving beyond the comfort zones of the family. The results of the present study suggest that parents with the lowest levels of education (e.g., less than a high school diploma) are more likely to have more restrictive bonds with their children, but this possibility is yet to be directly measured and should be the object of future research.

This distinction between restrictive and generative intergenerational relations raises the broader issue of the cultural context of the range of choices young people make about their future. Strictly speaking, in traditional collectivist societies broader identity horizons may not be functional or well received by families or communities. The prototype of such societies is one of a static culture with few pressures to change from the outside or inside. However, in the modern era such models are less sustainable, with globalization pressures introducing changes from the outside and social justice movements exerting pressures from the inside (cf. Mead’s [1970] three-phase model of cultural change). Older patriarchal hierarchies are more likely to be challenged, as are unfair ethnic divisions and exploitative class or caste systems. Such cultural changes can be seen in Western societies over the past several centuries in political and economic reforms, social movements, and revolutions, and have more recently been emerging in some developing countries (e.g., the Arab Spring).
Many Western societies have shed their collectivist traditions in favor of more choice-based individualized life courses based on principles of self-determination, even as some societies have maintained collective supports in their social welfare policies (like Finland). In place of certain collectivist traditions, social capital networks can be found that bond and bridge people and groups from diverse origins (Putnam, 2002). As noted above, intergenerational bonds can be restrictive or generative. With reference to education-to-work transitions, parental generative bonding can help children to develop bridging social capital that facilitates social mobility, breaking out of generations of ethnic, gender, and social class inequity and marginalization; children without such generative parental support may be more likely to perceive transitions away from comfort zones as threatening to their parents, friends, and families, and thus to themselves (Côté, 2005, 2008; Côté & Levine, 2016). Future research is needed that operationalizes these types on intergenerational bonds and examines their effects on identity formation and major life transitions in various cultural contexts.

Turning to the structural aspects of the IHM, the correlational pattern among the IHS subscales generally shows correlations for the Finnish sample that are midway between those previously reported for the U.S. and Japanese samples. However, the correlations between educational horizons and work horizons for the Finnish sample show a somewhat different pattern, especially for Finnish men where the correlation is not significant. Apparently, educational horizons have no bearing on work horizons for Finnish men whereas previous research has found moderate correlations for Japanese and U.S. men. It is possible that Finnish men do not see a direct connection between their educational opportunities and work prospects, perhaps since their broader work horizons involve a greater willingness to move out of their comfort zones, supported by social welfare policies that assist in such moves. This interpretation also applies in some degree to Finnish women, whose work horizons are broad in terms of international comparisons.

There are several reasons why Finnish students may show the above differences with U.S. and Japanese students that relate to Finnish educational and work policies. As we noted in the introduction, Finnish policies are based on social welfare principles in which there is less chance that young people will be left destitute if they make the wrong decisions, if their plans do not work out, or if their parents are unsupportive of their decisions to broaden their horizons. For example, in addition to free higher education, free health insurance, and guaranteed minimum incomes, the Finnish welfare state provides new graduates with a variety of employment programs. More generally, Finnish welfare policies are designed to encourage personal independence and self-determination while at the same time reducing insecurities that might inhibit the desire to develop personal human capital potential (Partanen, 2016).

Furthermore, educational opportunities in Finland seem to be particularly encouraging of broader horizons regarding geographic mobility. Each region in Finland has higher education institutions (Saari, Inkinen, & Mikkonen, 2016). On average, across these regions about 28% of university students annually move to another town or city in pursuit of a higher education, and 18% of students move to another town or city to get their professional training. Some 40% of university students and 32% of professional school students move to another region during the first year after completing their education. The only exception is the Helsinki region where student outflows are small due to a high concentration of education institutions in this region (Saari et al., 2016). Moreover, Finnish students study abroad proportionally more than Japanese students, and the proportion of young Finns studying abroad has increased in the past decade (Lehmusvaara, 2013). Thus, travel for educational purposes appears not to be a significant obstacle in Finland, and the work policies discussed above suggest travel is not a significant structural obstacle for work prospects. On the contrary, getting an education elsewhere and living independently remain important for perceptions of adulthood among young Finns—relocation is often perceived as a positive resource (Helve, 2013). In contrast, studying abroad has been decreasing among young Japanese (Takagi, 2016). The reluctance of Japanese students to study abroad has led to a recent initiative by the Japanese government to double the number of students doing so by 2020 (Ministry of Education, Culture, Sports, Science and Technology, 2014).
Limitations and future research

This study was limited in several ways. First, cross-sectional designs limit the ability to assess causality among variables. Second, relying on single-source measurement makes it difficult to validate certain aspects of the instruments. Third, online survey administrations can introduce sampling biases and measurement errors that are difficult to assess (Hewson, Yule, Laurent, & Vogel, 2003). And fourth, it is difficult to develop survey questions that are free from cultural content. Item content relevance can vary by country and the circumstances facing those from different backgrounds (e.g., gender and social class, including first-generation student status) in ways that are difficult to assess. For example, in Finland, the type of geographic mobility tapped by the IHS items may have a different meaning than in Japan or the United States. The wording of several work horizons items involve expressions like “travel too far” and “far from where I grew up,” so these items can be affected by different perceptions of what “far” means. Country size would not explain the differences between Finland and Japan, however, because both have similar landmasses. Perceptions of distance could be affected by population density, though, with Finland’s population a fraction of that of Japan’s (5.5 vs. 127.0 million, respectively).

The possibility of differing perceptions of such factors needs to be studied further. These studies may be best undertaken using mixed methods, with the qualitative aspects delving deeper into the nuances of differing perceptions of item wording within and between cultures. This qualitative research might also attempt to link the work of Hodkinson and Sparks (1997) that utilized Bourdieu’s concept of habitus, which appears to overlap somewhat with the concept of identity horizons, thereby blending theoretical traditions that to date were conducted in relative isolation (cf. Côté, 2016).

At the same time, the IHS items identified by Côté et al. (2015) for exclusion from cross-cultural analysis by the CFAs should be replaced so that each subscale has a minimum of five items. Additionally, the alpha for the Work Horizons subscale is below the rule of thumb .70 cutoff (.67) in the results reported by Côté et al. (2015), and is low (.55) for the Finnish sample (although when all five of the original IHS Work Horizons items are analyzed for the Finnish sample, the alpha rises to .66). These lower alphas suggest that better items should be generated for this subscale. However, two considerations are relevant in evaluating lower alpha levels. First, Nunnally (1967) argued that lower alphas in the .50 to .69 range are acceptable under certain conditions, as in exploratory research. And second, Cronbach’s alpha statistic has been criticized on a number of grounds. For instance, it can underestimate intercorrelations when item variances and interitem covariances are not homogeneous (e.g., Garson, 2015). This is why structural equation modeling (SEM) is increasingly the preferred method of item assessment. SEM allows researchers to assess the size of factor loadings for each item on their appropriate factors while at the same time detecting correlated errors among items that might be suppressing alpha levels (e.g., Raykov, 1997). In this case, in the analysis of the Finnish sample, adding an error term between one of the Work Horizons items and another item increased the model fit to an acceptable level, lending confidence to the integrity of the scale for use in other analyses.

The process of item replacement could also include a broadening of the net of items to include more realms of horizons and anxieties. For example, in addition to education and work, relevant domains may include the desire to broaden horizons in cognitive areas such as intellectual, artistic, and visual spatial abilities that reflect different forms of intelligence (Gardner, 2006) as well as behavioral spheres that enhance the young person’s social radius of experiences, which could include travel, cross-cultural experiences, and appreciation of different religions and philosophies. In conjunction with exploring more realms of horizons, more realms of anxiety and associated levels of functioning should be assessed as part of a nomological net. This could be accomplished with some of the well-validated screening instruments now available to assess health and disabilities (the World Health Organization Disability Assessment Schedule 2.0 [WHODAS 2.0]; Rehm, Ustun, & Saxena, 2000), quality of life (the WHO Quality of Life scale [WHOQOL]; WHOQOL Group, 1998), anxiety disorder (Generalized Anxiety
Disorder 7-item scale [GAD-7]; Spitzer, Kroenke, Williams, & Lowe, 2006), and depression (the Patient Health Questionnaire-9 [PHQ-9]; Kroenke, Spitzer, & Williams, 2001).

In this study we relied on parental education as a proxy for social class, but future studies need to include better and more direct measures of social class, especially in countries where the percentage of the population with a postcompulsory education is increasing considerably. Future research should also delve further into the extent to which social class background limits identity horizons by affecting students’ perceptions of their own abilities and leading them to dismiss financial aid programs provided by their governments and educational institutions, as found by Côté et al. (2008) in their study of Canadian high school students. Optimally, this research program would include longitudinal studies that allow researchers to assess how well identity horizons and anxiety scores predict the outcomes of the transition to adulthood among those from different backgrounds. In the meantime, retrospective studies of adults may assist us in understanding how identity horizons developed in early life produce later outcomes.

Focusing on the identity horizons of those in primary and secondary schools from lower-income families, especially those whose parents are not highly educated or promote restrictive intergenerational bonds, may be especially important to encourage and support upward mobility. These studies could be conducted with an eye toward developing policies supportive of early interventions to broaden children’s and adolescents’ horizons and should include measures of school grades, academic engagement, and other indicators of academic ability along with parents’ education, occupation, income, and restrictive or generative intergenerational outlook. Such studies may help to sort out the causes of intergenerational inequality that are associated more with agentic factors than structural ones. Finnish society appears to provide an excellent model that other countries can study and emulate in pursuit of these policy goals.

References

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