

**Student Perceptions of Teacher Support and Competencies for Fostering Youth Purpose  
and Positive Youth Development: Perspectives from Two Countries**

Matthew J. Bundick

Quaglia Institute for Student Aspirations

University of Pittsburgh

Kirsi Tirri

University of Helsinki

[bundick@qisa.org](mailto:bundick@qisa.org)

[tirri@stanford.edu](mailto:tirri@stanford.edu)

Corresponding Author:

Matthew J. Bundick

**Abstract**

With the growing interest in the development of purpose in youth, one important role that requires attention is the school teacher. The current paper explores student perceptions of the role teachers can play in fostering purpose in their students in the mid- and late adolescent years, and the teacher competencies which facilitate purpose development. The present investigation posits and tests a structural model in which student perceptions of teacher support predicts youth purpose, mediated by student perceptions of teacher competencies; in turn, youth purpose predicts broader positive youth development. Two samples of demographically diverse young people ages 13-18 were surveyed in the United States ( $n = 381$ ) and Finland ( $n = 336$ ). Results showed support for the role of teachers in fostering purpose, and provided evidence for the hypothesized model with some cross-cultural differences. Implications of these findings for developing purpose in schools are discussed.

Student Perceptions of Teacher Support and Competencies for Fostering Youth Purpose and  
Positive Youth Development: Perspectives from Two Countries

Much has been said in the developmental and educational literature about the purpose of schools in developing youth—arguments include, among other things, to equip them with the necessary skills for life; prepare them to contribute as citizens of a thriving democracy; train them to enter the workforce; develop well-rounded young people (see, e.g., Labaree, 1997). However, relatively little has been said about the role of schools in developing purpose *in* youth. A society's collective reflections on the ultimate purposes of schools should be just as important toward informing its educational policy decisions as individuals' reflections on the ultimate purposes of their lives should be toward informing their personal decisions about activity involvements, academic endeavors, career paths, and major life decisions. To the extent that a substantial portion of the time and psychological energy spent in the formative years of adolescence are spent in, dedicated to, and thinking about school, it is ironic how meagerly invested schools have traditionally been in expressly developing youth purpose.

This state of affairs, however, is changing. In recent years, youth purpose has received growing attention in the academic (e.g., Burrow & Hill, 2011; Mariano, 2011) and popular (Damon, 2008a) literature. Though most adults, as well as adolescents, have an intuitive understanding of what the general concept of purpose means, various definitions have circulated through the psychological literature (see Damon, Menon, & Bronk, 2003, for a review). In the current conceptualization, purpose refers to a stable and generalized intention to accomplish something that is both meaningful to the self and of intended consequence to the world beyond the self (Damon et al., 2003, p. 121). Purpose is, at its core, a type of goal (i.e., an intention to accomplish something) that has particular qualities (i.e., that it is stable over time, generalized

across life domains, personally meaningful, and of intended consequence beyond-the-self (BTS)). The degree to which one may be considered purposeful thus rests on one's understanding of one's major life goals, whether those goals include content that is focused on making an impact on the world beyond oneself, and a generalized orientation toward actualizing those life goals.

As with most psychological constructs, purpose does not develop in a vacuum; purposes are discovered, fostered, pursued, and realized with the support and guidance of friends, family, and caring adults from a variety of life domains (Moran, Bundick, Malin & Reilly, 2012). Among the most important developmental domains in a youth's life is school (Eccles & Roeser, 2011). Indeed, it is rather well-established that school plays a central role in the development of notions related to purpose, such as identity and future goals (Erikson, 1968; Flum & Kaplan, 2006). According to Damon (2008b), purposes may be discovered in the classroom, engaged through school activities, and encouraged by any member of a school staff who knows and understands their students. Moran et al. (2012) found that students high in purpose perceived their teachers as providing opportunities, information, and support, concluding that "youth with purposes recognized the specific ways that education was integral to their specific [purposeful] aims" (p. 19). In their review of the literature of the various ways in which youth purpose can be fostered, Koshy and Mariano (2011) highlighted the emerging evidence that supportive teachers can play critical roles in the development of purpose; however, they also noted that investigations of "instructional approaches to teach specifically for purpose are absent from academic research journals" (p. 16). Indeed, the literature suggests that what is as yet poorly understood is not *whether*, but *how* teachers can foster purpose development.

One essential consideration in how effective teachers are likely to be in promoting youth purpose is how skilled they are in the areas of teaching most germane to purpose. While there has been much research on the teacher attributes that underlie the kind of effective teaching which leads to student academic achievement—such as strong cognitive and verbal ability; relevant content knowledge and pedagogical delivery skills; an understanding of the cognitive, social, and emotional processes that undergird student learning; and an ability and willingness to adapt to changing circumstances (see Darling-Hammond & Bransford, 2000)—it is unknown to what extent these qualities are more or less important for the development of the building blocks of purpose, which involve orthogonal constructs such as identity development, future orientation, and prosocial orientation. To the extent that purpose development diverges from broad cognitive and academic development in young people, professional teachers need competencies that are related to both their character and conduct if they are to promote purpose in their students (not to mention, develop their students more holistically; see Tirri, Husu, & Kansanen, 1999). Among the teacher competencies well suited to this kind of development that have been identified in the teacher development literature, we consider two broad areas to be particularly relevant to the purpose: field-invariant teaching skills (pedagogical skills independent of the content or context, e.g., communication and organizational skills), and character traits (personality and moral conduct; see Tirri, 2008).

One of the most important bases for a teacher to have before he or she can be expected to teach for purpose is an understanding of his or her own purpose (Damon, 2008a). Just as teachers must have some expertise in the content area they are instructing before they can be expected to effectively disseminate the material and engage the students with it, the teachers themselves should have some sense of their own most important life goals, and an understanding

of how they make meaning of their own lives, before engaging with intentionality in purpose development of their students.

To this end, teachers' visions or images of ideal school practices may provide ways to access teachers' sense of purpose, at least in as much as teachers find purpose in their work. Vision can provide inspiration and motivation to teachers and also guide them to reflect on their work (Tirri & Husu, 2006; Husu & Tirri, 2007). According to Darling-Hammond (1990), one of the most powerful predictors of teachers' commitment to teaching is a sense of efficacy, the teachers' sense that they are making a positive difference in the lives of their students. In the secondary school context teachers need skills to teach their subject matter, regardless of what it is, in the ways that would open up its educational meaning. The German *Didaktik* is based on the idea that any given matter can represent many different meanings, and many different matters can open up any given meaning. But there is no matter without meaning, and no meaning without matter (Hopmann, 2007, p. 116). Meaning emerges when the content is enacted in a classroom based on the methodological decisions of a teacher; meaning making is facilitated when teachers provide opportunities for their students to reflect upon what is meaningful to them, and how their current engagements are related to their life goals. Through this process, the individual growth of a student is fostered and the potential for purpose development is promoted.

Recent empirical findings show that both more experienced practicing teachers and more novice student teachers in Finland emphasize some general purposes in teaching regardless of the subject matter taught. Not surprisingly, they all view themselves as responsible professionals whose task is to teach the students the basic knowledge of their subject matter. More importantly, they also typically view themselves responsible for the holistic education of the students, including their personal and ethical growth. Interestingly, practicing teachers have a

stronger emphasis on this kind of holistic student development than novice student teachers whose main concern is still their own mastery of subject matter (Tirri, 2011; 2012). Notably, to our knowledge such research has not been conducted in the United States; given the stronger emphasis in Finland compared to the US on holistic education (Sahlberg, 2011), it is hard to say whether these results would generalize.

In considering the mechanisms through which supportive teachers might enhance students' levels of purpose, three particular competencies have emerged. First, teachers who go beyond content delivery and teach skills that promote future planning and general future orientation are likely to build the foundational skills of purpose which entail goal-setting and goal-striving in the years to come (Nurmi, 1991). Second, purpose development benefits from an enhanced capacity for reflection; when teachers ask students to consider the consequences of their actions, they are building students' reflective capacities and perhaps their empathic capabilities as well (Damon, 2008a). Third, schooling will be likely to be seen by students as an arduous and extraneous developmental hoop through which to jump if they do not see its importance and/or relevance to what is most important in their lives; indeed, an appreciation for the importance of school can be rather easily and directly enhanced by teachers who simply spend the time to highlight why it is so (Damon, 2009).

These competencies are meant to be domain-general, rather than domain- or content-specific. Given the wide variation in the particular purposeful life goals of each student in a given classroom (e.g., a science related aim such as finding a cure for some disease, or an arts related aim such as creating beautiful artwork for the world to enjoy, or a non-school/non-professional related aim such as engaging in religious missionary work), it could not be reasonably expected that a given teacher of a given subject matter could foster the individual life

goals of each student. Indeed, previous research has shown that adolescents endorse a variety of different types of purpose, many of which are not related to school or one's profession; among the top categories are supporting one's family and friends, and serving God or a higher power (Bundick, 2009).

### **Research Questions**

The broad foci of the empirical investigation in the present work was to better understand the role of school teachers in promoting purpose, and to provide further evidence of the relations among purpose and positive youth development (PYD; for more on the role of purpose in youth development, see Damon, 2008a). We posited a structural model which depicts the hypothesized relations among student perceptions of teacher support, particular teacher competencies (i.e., teaching future planning, teaching consequences, and teaching importance), the primary components of purpose, and PYD (see Figure 1).

Note that we focused on *student perceptions* of teacher support and teacher competencies, rather than teachers' self-assessments or objective evaluations of these qualities. This is because we are interested in the impact of these teacher qualities on the students' levels of purpose and positive youth development, and it is logical (plus there is evidence to suggest) that students' interpretations of and experiences with their teachers' provision of support and outward demonstration of competence provide the bases upon which their development will be influenced (see, e.g., Bill & Melinda Gates Foundation, 2010). That is, the students' perceptions are likely to be their reality. Moreover, student perceptions have been found to be reliable and accurate indicators of teachers' instructional and relational qualities (Bill & Melinda Gates Foundation, 2010).

Moreover, we were interested in exploring the degree to which the relations among these constructs was culture-specific vs. culture-general. To that end, we collected comparable data from samples in the United States and in Finland. These two countries warrant comparative attention for two primary reasons. First, there are many socio-cultural similarities (e.g., individualism, egalitarian ethos, and a strong work ethic are shared cultural values; both economies are well-developed) which allow for our exploration of the culture-generality of purpose; at the same time, there are many interesting educational and cultural distinctions (e.g., Finland's social insurance and welfare systems are more expansive, while its emphasis on personal autonomy is stronger; the Finnish education system involves multiple and more common vocational pathways and takes a more holistic approach), allowing for the investigation of the culture-specificity of purpose as well. Second, Finland's education system has in recent years been lauded as exemplary, and is viewed by many in the United States as aspirational (see, e.g., Sahlberg, 2011).

With these interests in mind, the present investigation addressed three primary research questions:

(1) Do student perceptions of teacher support in secondary schools predict the components of youth purpose in both US and Finnish students?

(2) Are the relations among student perceptions of teacher support and the components of purpose mediated by a set of student perceived teacher competencies? Do these mediational paths apply in the same way for both US and Finnish students?

(3) Do the components of youth purpose predict positive development in young people in both US and Finnish cultures?

-----

INSERT FIGURE 1 ABOUT HERE

-----

Regarding these research questions, the literature informs two specific hypotheses. First, with regard to the first research question, we hypothesize that student perceptions of teacher support do predict each of the three components of youth purpose in both US and Finnish samples. Second, regarding the third research question, we hypothesize that all three components of youth purpose predict positive youth development in both samples. We posit these hypotheses will hold across the samples because there is no directly relevant cross-cultural research basis for positing that any particular cultural differences will operate in such a way as to lead to differential relations. In light of Koshy and Mariano's (2011) assessment that there is little to no research that addresses instructional approaches for teaching purpose, alongside the lack of cross-cultural research on the topic, we are taking an exploratory approach to the second research question rather than attempting to offer weakly informed hypotheses.

## **Method**

### **Participants and procedure**

In the United States, we surveyed 381 middle and high school students ages 13-18 ( $M = 15.16$ ,  $SD = 1.50$ ) from four geographically and demographically diverse areas across the country. In Finland, we administered the same survey (translated into Finnish) to a nationally representative sample of 336 students from the same age range ( $M = 15.34$ ,  $SD = 1.44$ ) from urban and suburban areas. The Institutional Review Board from the first author's university (in the US) at the time of data collection approved the survey content and consenting procedures—including student assent (provided on the survey itself) and parental consent for all participants under 18 years of age (by way of parental signature on a take-home letter), as well as the consent

of the schools' principals—before administration; these procedures were applied to the Finnish sample in accordance with the proper institutional guidelines of the second author's university. In both samples, gender was approximately evenly split. The Finnish version of the survey was based on a translation by one of the study's authors who is fluent in both English and Finnish, and subsequently reviewed by another native Finnish colleague before administration. All surveys were self-report, and administered in the classrooms during the school day under the supervision of a trained researcher. The average time to complete the survey in both countries was approximately 30 minutes.

### **Measures**

The survey comprised multiple measures assessing respondents' perceptions of support from teachers and teacher competencies related to purpose, the dimensions of youth purpose, and selected indicators of positive youth development. The psychometric properties of the scales were demonstrated via confirmatory factor analyses, as reported in the measurement model in the Results section. Additionally we report the composite reliability (CR) (Bacon, Sauer, & Young, 1995) as is most appropriate as an indicator of reliability in measures of latent constructs in the structural equation modeling (SEM) framework (Raykov & Shrout, 2002). Similar to Cronbach's alpha measure of internal consistency, the CR is generally considered acceptable when at or above .70. The CRs, along with descriptive statistics and bivariate correlations among the constructs for both the US and Finnish samples can be found in Table 1.

**Perceived teacher support for purpose.** Two dichotomous true-false items were used to create an index of respondents' general perceptions of teacher support related to purpose in their schools. Immediately previous to responding to these items on the survey (which were part of a larger study on youth purpose from which the present data came; see Damon, 2008a),

respondents were asked to rank from among a list of life goals which best reflects their purpose in life. The two teacher support items were “At least one teacher is interested in my #1 ranked purpose” and “Adults in my school are role models for my #1 ranked purpose.” Respondents could thus respond in the affirmative to neither, one or the other, or both of these statements, suggesting (respectively) increasing levels of perceived teacher support for their purpose. The index of teacher support was a sum of these two items, comprising a single-item latent construct with responses of 0, 1, or 2.

**Student perceptions of teacher competencies for purpose.** The survey assessment of teacher competencies related to purpose was developed for the aforementioned larger investigation of youth purpose, based on extensive observations and interviews conducted in a selected group of American schools that had been recognized as exceptional for developing purpose in their students (see Andrews, Rathman, & Moran, 2008). Characteristics thought to be predictive of purpose development in these schools were operationalized via a set of six survey items. Each of these items were responded to on a 7-point Likert-type scale (1 = *strongly disagree*, 7 = *strongly agree*). The three items which best reflected teachers’ individual competencies and situations over which teachers are likely to have primary control in the school setting were selected from this list and included as indicators of teacher competencies for purpose, as follows.

*Teaching for future planning.* As noted earlier, one of the fundamental skills that underlies the formation and pursuit of a purpose is the ability to plan for the future. To assess this notion, the survey asked respondents to express their level of agreement with the following statement: “In my current school, teachers teach me how to plan for the future.”

*Teaching for understanding of the consequences of one's actions.* Purpose formation is likely to be affected by one's ability to understand the connection between one's efforts and one's goals. In particular, the BTS-oriented nature of purpose suggests that one must see the benefits of actualizing one's goals toward the world beyond oneself. To assess this notion, the survey asked respondents to express their level of agreement with the following statement: "In my current school, the consequences of my decisions and actions are pointed out to me."

*Teaching for understanding of the importance of one's engagements.* Purpose entails the personal investment of one's skills, interests, time and effort toward one's desired goal(s). One who understands why one's involvements in the school setting are important is likely to be better equipped to see how such efforts are in the service of their larger purpose. To assess this notion, the survey asked respondents to express their level of agreement with the following statement: "In my current school, I am taught why a lesson or task or experience is important."

**Purpose.** As noted earlier, according to the Damon et al. (2003) conceptualization, purpose is inherently multidimensional. It entails the understanding and recognition of one's intention to accomplish a life goal that is intrapersonally meaningful as well as intended to be interpersonally (or extrapersonally) consequential. Thus, having purpose involves: (1) the identification of the life goal(s) one intends to accomplish, (2) an orientation toward accomplishing the goal(s), and (3) content of the goal(s) that is, at least in part, beyond oneself. Following from this formulation, the purpose construct was operationalized by way of three latent variables: purpose identification, goal-directedness, and BTS-orientation of life goals.

*Purpose identification.* Purpose identification refers to the degree to which people feel they have found a purpose for their lives. The construct was operationalized via the Meaning in Life Questionnaire—Presence subscale (Steger, Frazier, Oishi, & Kaler, 2006). Respondents

rated five items on a 7-point Likert-type scale (1 = *strongly disagree*, 7 = *strongly agree*).

Although a popular measure of global meaning in life, the item content of the scale is primarily geared toward assessing the degree to which one has identified a purposeful life goal (sample item: "I have found a satisfying life purpose"). This measure has been previously used to operationalize purpose identification (Bundick, 2011), and has shown strong psychometric properties including good convergent and discriminant validity (Steger et al., 2006).

*Goal-directedness.* A short version of the Purpose in Life subscale of Ryff's Psychological Well-Being measure (Ryff, 1989) was used to operationalize goal-directedness. The scale designed to assess the degree to which one "has goals, intentions, and a sense of direction" in life (Ryff, 1989, p. 9), and has also been used in previous research for this purpose (Bundick, 2011). Respondents rated nine items on a 7-point Likert-type scale (1 = *strongly disagree*, 7 = *strongly agree*; sample item: "Some people wander aimlessly through life, but I am not one of them"). The measure has been shown to be psychometrically sound and has demonstrated strong convergent and discriminant validity (Ryff & Keyes, 1995).

*Beyond-the-self-orientation of life goals.* This dimension of the purpose construct was operationalized via selected items from Roberts and Robins' (2000) measures of major life goals, namely those goals related to the BTS-oriented life domains of relationships/family, religion, and social/community. Specifically, participants rated the importance of eight life goals on a 5-point Likert-type scale, following the stem "How important are the following goals in your life?" (1 = *not important to me* to 5 = *very important to me*; sample life goal: "Helping others in need"). Though the particular items that comprised this scale may not encapsulate all possible BTS-oriented life goals, taken together they suggest a general BTS goal-setting orientation.

**Positive youth development.** Though there are a number of survey measures of positive youth development (e.g., Benson & Scales, 2009; Bowers, Li, Kiely, Brittan, Lerner, & Lerner, 2010), many of them either are impractically long or fail to honor the multidimensionality and process nature of the construct. The present work brought together three scales from different sources meant to represent three of the major components of PYD: current subjective well-being, one's sense of being on a positive trajectory toward a hopeful future, and one's perception that one is living up to one's potential (Bundick, Yeager, King, & Damon, 2010). As the present focus is on the relations among the dimensions of purpose and the broader notion of PYD, the present investigation assessed PYD as a unitary construct. Each of these components was measured via a separate scale, and the scale scores were used indicator variables to form the PYD latent construct. As such, reliability statistics for each of these three subscales will be presented here.

*Life satisfaction.* The Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985) was designed to measure people's cognitive judgments of their current global life satisfaction. Respondents rated five items on a 7-point Likert-type scale (1 = *strongly disagree*, 7 = *strongly agree*; sample item: "I am satisfied with my life"). Its psychometric properties are well documented, and it has been validated in a wide variety of populations (see Pavot & Diener, 1993). In the present work, the internal consistency of this scale in each country's sample was: in the US,  $\alpha = .81$ , and in Finland,  $\alpha = .83$ .

*Being on a path to a hopeful future.* The measurement of the "hopeful future" construct was derived from a set of items from Shultz, Wagener, and King's (2006) measure of youth thriving. This notion is meant to reflect people's optimism about their futures as well as their confidence in their ability to overcome obstacles. Specifically, respondents rated five items on a

7-point Likert-type scale (1 = *strongly disagree*, 7 = *strongly agree*). Sample items include: “I am confident that my life in the future will be very good” and “I believe I can make it through anything, no matter what comes against me.” Though only measured at one point in time, this indicator of PYD incorporates the notion of one’s perceptions of one’s future trajectory, which is reflective of the developmental nature of the construct. The internal consistency of this scale in each country’s sample was: in the US,  $\alpha = .84$ , and in Finland,  $\alpha = .84$ .

*Self-perceived fulfillment of potential.* Similarly, the measurement of the “fulfillment of potential” construct was derived a set of items from Shultz, Wagener, and King’s (2006) youth thriving measure. Specifically, respondents rated two items on a 7-point Likert-type scale (1 = *strongly disagree*, 7 = *strongly agree*) as follows: “Most people think that I am living up to my potential,” and “On the whole, I think that I am living up to the best of my abilities.” The internal consistency of this scale in each country’s sample was: in the US,  $\alpha = .81$ ; in Finland,  $\alpha = .79$ .

-----  
INSERT TABLE 1 ABOUT HERE  
-----

### **Analysis plan**

To explore bivariate relations among the constructs, and to test the factor structure of the item loadings on the latent constructs as well as fit the hypothesized path model to the observed data, we ran SEMs using the LISREL 8.80 software package (Jöreskog & Sörbom, 2006). The SEM framework is well-suited for testing complex hypothesized relationships among multiple latent constructs and has the benefit of accounting for measurement error (Kline, 2005). The SEM process involves two primary steps: validating the measurement model and fitting the structural model. A measurement model demonstrates how the measures of interest map onto

the latent theoretical constructs, typically by way of confirmatory factor analysis. Establishing that a measurement model fits one's sample data is generally considered a prerequisite step to fitting a structural model (i.e., the correlational and theoretically causal links between the latent constructs; Anderson & Gerbing, 1988; Kline, 2005).<sup>1</sup>

The following model fit indices for the SEM analyses will be reported, as recommended by Kline (2005): 1) the Satorra-Bentler<sup>2</sup> scaled model chi-square ( $\chi^2$ ) and its accompanying *p*-value, 2) the Root Mean Squared Error of Approximation (RMSEA; Browne & Cudeck, 1993), 3) the Tucker-Lewis Fit Index (TFI; Bentler & Bonnett, 1980), and 4) the Bentler Comparative Fit Index (CFI; Bentler, 1990). While the conventions regarding acceptable fit criteria for these indices are inconsistent and remain under debate (e.g., Marsh, Hau, & Wen, 2004), in the present work we use the following guidelines based on the recommendations of Hu and Bentler (1999) and Kline (2005): 1) good RMSEA  $\leq .06$ , acceptable RMSEA  $\leq .08$ ; 2) good TFI  $\geq .95$ , acceptable TFI  $\geq .90$ ; and 3) good CFI  $\geq .95$ , acceptable CFI  $\geq .90$ .

Before running the SEM analyses, it was important to consider three additional factors: (1) the hierarchical nature of the present data (that is, students nested within schools), (2) assumptions (i.e., regarding missingness and normality) underlying SEM analysis, and (3) the measurement invariance of the scales between the samples. Regarding the hierarchical nature of the data, a key assumption of SEM holds that all observations are independent and identically distributed (Kline, 2005). To examine the potential for this bias, the intraclass correlations for each of the constructs of interest were obtained. The results of these preliminary analyses showed school-level effects accounted for less than 5% of the total variance in each of the

---

<sup>1</sup> The present SEM analyses did not include covariates, but separate SEM analyses not reported here were run including controls for age, gender, and social desirability; none significantly altered the results.

<sup>2</sup> The Satorra-Bentler scaled  $\chi^2$  was reported because all analyses used a maximum likelihood-robust estimator, as described below.

constructs. Given that the vast majority of the variation in the constructs was thus at the individual level, and that the focus of the present analyses was on individual-level phenomena, accounting for the multilevel nature of the data was deemed unnecessary.

Second, two additional assumptions of SEM analyses were checked, including missingness of data and violations of normality assumptions. The missing data comprised less than 1% of the overall dataset in each sample, and did not show any patterns of systematic missingness; data were thus imputed separately for each sample via an expectation maximization single imputation technique (in LISREL 8.80). Shapiro-Wilk's  $W$  test for normality along with visual inspections of plots revealed significant univariate violations ( $ps < .001$ ) for nearly every variable. It was thus determined that all SEM analyses would be performed using the Robust Maximum Likelihood method (MLR in LISREL; see Jöreskog, Sörbom, du Toit, & du Toit, 2001). MLR employs the Satorra-Bentler rescaled  $\chi^2$  (Satorra & Bentler, 1994), a corrected normal-theory test statistic that has been found to be less sensitive to non-normal data (Hu, Bentler, & Kano, 1992) and has been shown to perform well with sample sizes of between  $N=200$  and  $N=500$  (see Curran, West, & Fitch, 1996).

Third, since the analysis plan involved comparing the hypothesized model across two samples from different countries, it was necessary to establish measurement invariance (Byrne & Watkins, 2003). Measurement invariance, broadly speaking, refers to the extent to which the content of the set of items that comprise a scale are commonly understood by the respondents across groups. While there are different levels of measurement invariance, the level necessary to allow for comparisons across groups in an SEM involves examining the equivalence of factor loadings of the indicator variables on the latent variables. Establishing this equivalence provides evidence that the items function in the same way as indicators of their accompanying latent

variables across groups. The present analyses followed the guidelines for testing for measurement invariance described by Byrne (1998). The determination of between-group invariance was based on two criteria: (1) the Satorra-Bentler scaled  $\chi^2$  difference test using the  $T$  statistic (Satorra & Bentler, 1994), and (2) a difference in CFI of less than 0.01 when comparing constrained and unconstrained measurement models across samples (Cheung & Rensvold, 2002).

These preliminary measurement invariance analyses showed considerable differences on the factor loadings between the US and Finnish samples on all negatively-worded items.<sup>3</sup> Since there were relatively few negatively-worded items across the measures, and the face validity of the scales held with only the positively-worded items, all negatively-worded items were removed from all scales before commencing with further measurement invariance analyses. These further analyses showed mixed evidence of measurement invariance: the Satorra-Bentler scaled  $\chi^2$  difference test showed  $T_s = 27.56$ ,  $df = 10$ ,  $p = .002$ , while the difference between constrained and unconstrained measurement models between samples was  $\Delta CFI = 0.002$ . Since the former criterion was only marginally indicative of variance in measurement, and the  $\Delta CFI$  was well below Cheung and Rensvold's (2002) recommended cut-off, the scales were determined to have demonstrated an acceptable level of measurement invariance across the samples.

With these assumptions accounted for and measurement invariance sufficiently established, the remaining analyses were geared toward addressing our primary research questions. First, as noted earlier, we established the viability of the measurement model separately in the US and Finnish samples. Next, given our exploratory approach to the second research question regarding whether the relationship between perceived teacher support and the three components of purpose is mediated by students' perceptions of the teacher competencies,

---

<sup>3</sup> A similar method effect was found in a sample of Finnish youth by Zhang, Nurmi, Kiuru, Lerkkanen, and Aunola (2011).

we tested whether Baron and Kenny's (1986) three conditions necessary to test for mediation were met. These conditions are: (1) the independent variable (i.e., teacher support) predicts the dependent variable(s) (i.e., purpose identification, goal-directedness, BTS-orientation); (2) the independent variable predicts the hypothesized mediator(s) (i.e., teaching future planning, teaching consequences, teaching importance); and (3) the mediator(s) predict the dependent variable(s) when controlling for the independent variable. All paths for each condition were tested simultaneously in a single structural model (separately for each country's sample) comprising all involved variables, resulting in three structural models necessary to establish these conditions for mediation. For the specific paths for which these conditions are met (e.g., teacher support  $\rightarrow$  teaching importance  $\rightarrow$  goal-directedness), a fourth step was necessary to test for mediation. When mediation is present, the effect of the independent variable on the dependent variable is significantly reduced when controlling for the mediator; evidence of this is indicated by Sobel's asymptotic *Z* test for mediation (Preacher & Hayes, 2004; Sobel, 1982).<sup>4</sup> This final step in the mediation testing followed the establishment of the structural models in each sample, as described below.

## Results

### Measurement model

To construct the measurement models for each sample, a saturated structural model was composed in which all eight latent variables—teacher support, teaching future planning, teaching consequences, teaching importance, purpose identification, goal-directedness, BTS-orientation of life goals, and PYD—were freely estimated. The models were both found to provide good fit to

---

<sup>4</sup> While there are other possible approaches to testing for mediation in complex models involving the influence of multiple exogenous variables, the Sobel test allows for a straightforward analytical approach using the readily available coefficients and standard errors of selected mediating paths. This approach accounts for the effects of the other paths in the model on the endogenous variables.

the data—for the US sample: Satorra-Bentler  $\chi^2 = 177.26$  ( $df = 111$ ),  $p < .001$ ; RMSEA = 0.040; TFI = .98; CFI = .99; and for the Finnish sample: Satorra-Bentler  $\chi^2 = 182.43$  ( $df = 111$ ),  $p < .001$ ; RMSEA = 0.04; TFI = .98; CFI = .98. All item factor loadings in both samples were at or above .39, which is considered adequate by traditional standards (Tabachnick & Fidell, 2007).<sup>5</sup> Additionally, as shown in Table 1, none of the bivariate correlations exceeded .72, which is also a sign of good discriminant validity (Kenny, 1979).

### **Conditions for mediation**

The first condition for mediation was that teacher support predicts the three purpose latent constructs. Exploring this condition for mediation also addressed the first research question. In the US sample, teacher support significantly predicted all three components of purpose: purpose identification ( $r = .20$ ,  $p < .001$ ), goal-directedness ( $r = .19$ ,  $p < .001$ ), and BTS-orientation ( $r = .26$ ,  $p < .001$ ). In the Finnish sample, teacher support only significantly predicted goal-directedness ( $r = .16$ ,  $p = .04$ ). Thus, in the Finnish sample, there could be no mediated paths from teacher support to purpose identification or BTS-orientation.

The second condition for mediation was that teacher support predicts the three purpose-related competencies. In the US sample, teacher support significantly predicted teaching future planning ( $r = .25$ ,  $p < .001$ ), teaching consequences ( $r = .10$ ,  $p = .05$ ), teaching importance ( $r = .20$ ,  $p < .001$ ). In the Finnish sample, teacher support significantly predicted teaching consequences ( $r = .15$ ,  $p = .05$ ) and teaching importance ( $r = .18$ ,  $p = .01$ ), but not teaching future planning. Taken together with the results addressing the first condition for mediation,

---

<sup>5</sup> An inspection of the modification indices showed that one indicator of PYD (life satisfaction) in the US sample would have significantly cross-loaded on another construct (goal-directedness); this may not be surprising, given the high degree of correlation found in previous research between the constructs (Ryff & Keyes, 1995). Though the loading for this indicator was about the same on either latent variable, since theory and previous research (Ryff, 1989) suggest the constructs are conceptually distinct—and allowing the indicator variable to crossload would undermine this conceptual distinction important to the present study—it was determined that it should indicate only its intended construct. None of the items in the Finnish sample would have significantly double-loaded.

these results regarding the second condition dictate that the only possible mediation paths in the Finnish sample could run from teacher support through teaching consequences and teaching importance to goal-directedness.

The third condition for mediation was that the three purpose-related teacher competencies predict the three components of purpose, controlling for teacher support. In the US sample, teaching future planning significantly predicted goal-directedness ( $r = .13, p = .04$ ) and BTS-orientation ( $r = .17, p = .01$ ); teaching consequences only significantly predicted purpose identification ( $r = .20, p < .001$ ); and teaching importance significantly predicted all three purpose components: purpose identification ( $r = .17, p = .01$ ), goal-directedness ( $r = .23, p < .001$ ), and BTS-orientation ( $r = .20, p = .005$ ). In the Finnish sample, teaching future planning significantly predicted all three purpose components: purpose identification ( $r = .41, p < .001$ ), goal-directedness ( $r = .21, p = .001$ ), and BTS-orientation ( $r = .20, p = .01$ )—however, since teacher support was not significantly related to teaching future planning, mediation could not be tested. Additionally, teaching consequences significantly predicted goal-directedness ( $r = .19, p = .02$ ), and teaching importance significantly predicted both purpose identification ( $r = .21, p = .002$ ) and goal-directedness ( $r = .38, p < .001$ ).

Following from these results, the conditions for mediation were in place for the following paths to be tested via Sobel tests. In the US sample, conditions were met to test for mediation of: (1) the relationship between teacher support and purpose identification through teaching consequences and teaching importance; (2) the relationship between teacher support and goal-directedness through teaching future planning and teaching importance; and (3) the relationship between teacher support and BTS-orientation through teaching future planning and teaching importance. In the Finnish sample, conditions were met to test for mediation of the relationship

between teacher support and goal-directedness through teaching consequences and teaching importance. These Sobel tests for mediation were performed following the establishment of viable structural models for the samples, and will thus be described in the following section.

### **Structural model**

The hypothesized structural model posited two main sets of paths. The first set of paths posited the aforementioned mediational model, whereby relations among teacher support for purpose and the three purpose-related constructs—purpose identification, goal-directedness, and BTS-orientation of life goals—were mediated by the three purpose-related teacher competencies. In this first set of paths could be found evidence to address the first two sets research questions: (1) Does teacher support in secondary schools predict the components of youth purpose in both US and Finnish students? and (2) Are the relations among teacher support and purpose components mediated by a set of teacher competencies? Are these mediational paths consistent across US and Finnish students?

The second set of paths posited relations among the three purpose-related constructs and PYD. In this second set of paths could be found evidence to address the third primary research question: Do the components of youth purpose predict PYD in both US and Finnish students? Figure 2 and Figure 3 present the standardized path coefficients for this final structural model (with non-significant paths trimmed) for the US and Finnish samples, respectively.<sup>6</sup> The results will be presented separately by country.

**US sample results.** This structural model was found to provide an adequate fit in the US sample: Satorra-Bentler  $\chi^2 = 438.75$  ( $df = 124$ ),  $p < .001$ ; RMSEA = 0.08; TFI = .93; CFI = .94. The model was further found to account for a small to moderate portion of the variances in each

---

<sup>6</sup> Indicators and covariates are not shown for ease of presentation.

of the outcome variables: purpose identification ( $R^2 = .12$ ), goal-directedness ( $R^2 = .13$ ), BTS-orientation of life goals ( $R^2 = .13$ ), and PYD ( $R^2 = .47$ ).

-----  
INSERT FIGURE 2 ABOUT HERE  
-----

In the mediation component of the model, teacher support significantly predicted teaching future planning ( $\beta = .25, p < .001$ ), teaching consequences ( $\beta = .10, p = .05$ ), and teaching importance ( $\beta = .20, p < .001$ ). Teacher support also significantly predicted purpose identification ( $\beta = .14, p = .01$ ), goal-directedness ( $\beta = .13, p = .03$ ), and BTS-orientation of life goals ( $\beta = .18, p = .01$ ). Each of these effect sizes was small. As noted in the earlier discussion of the conditions for mediation, teaching future planning significantly predicted BTS-orientation, teaching consequences significantly predicted purpose identification, and teaching importance significantly predicted all three components of purpose. The Sobel tests for mediation showed that: (1) the relationship between teacher support and purpose identification was significantly mediated by teaching importance ( $Z = 2.37, p = .02$ ), but not teaching consequences; (2) the relationship between teacher support and goal-directedness was significantly mediated by teaching importance ( $Z = 3.03, p = .002$ ), but not teaching future planning; and (3) the relationship between teacher support and BTS-orientation was significantly mediated by teaching future planning ( $Z = 2.06, p = .04$ ) as well as teaching importance ( $Z = 2.39, p = .02$ ).

In tests of the relations among the purpose components and PYD, the model demonstrated that each of the components significantly predicted PYD indicators. Specifically, purpose identification and goal-directedness each predicted PYD with medium-sized effects ( $\beta =$

.47,  $p < .001$  and  $\beta = .42$ ,  $p < .001$ , respectively); BTS-orientation showed a significant, albeit small, effect on PYD: ( $\beta = .11$ ,  $p = .04$ ).

**Finnish sample results.** The structural model was found to provide an adequate fit in the Finnish sample as well: Satorra-Bentler  $\chi^2 = 434.40$  ( $df = 129$ ),  $p < .001$ ; RMSEA = 0.08; TFI = .92; CFI = .93. This model was similarly found to account for a small to moderate portion of the variances in each of the outcome variables: purpose identification ( $R^2 = .24$ ), goal-directedness ( $R^2 = .23$ ), BTS-orientation of life goals ( $R^2 = .07$ ), and PYD ( $R^2 = .49$ ).

-----  
INSERT FIGURE 3 ABOUT HERE  
-----

In the mediation component of the model, teacher support significantly predicted teaching consequences ( $\beta = .15$ ,  $p = .05$ ), and teaching importance ( $\beta = .18$ ,  $p = .01$ ), though the effect sizes were small. Unlike in the US sample, teacher support did not predict teaching future planning. Also in a divergence from the US sample, teacher support did not significantly predict any of the purpose components in the final model. As noted in the earlier discussion of the conditions for mediation, the teacher competencies demonstrated more significant relations with the purpose components. Specifically, teaching future planning significantly predicted all three purpose components, and both teaching consequences and teaching importance significantly predicted purpose identification and goal-directedness.

As determined in the earlier section exploring the conditions for mediation, the two candidate paths for mediation included those leading from teacher support to goal-directedness through teaching consequences and teaching importance. The Sobel tests for mediation showed

that: (1) the relationship between teacher support and goal-directedness was significantly mediated by teaching importance ( $Z = 2.24, p = .02$ ), but not by teaching consequences.

In tests of the relations among the purpose components and PYD, the model demonstrated that purpose identification ( $\beta = .31, p < .001$ ) and goal-directedness ( $\beta = .57, p < .001$ ) significantly predicted PYD. Unlike in the US sample, BTS-orientation did not significantly predict PYD in the Finnish sample.

### **Discussion**

The primary goals of the present study were to better understand the role of school teachers toward promoting purpose among their students, and the benefits of purpose toward broader positive youth development. Additional analyses explored how the relations among these constructs may differ across cultures. Specifically, this paper investigated three research questions: (1) Do student perceptions of teacher support in secondary schools predict the components of youth purpose in both US and Finnish students? (2) Are the relations among student perceptions of teacher support and the components of purpose mediated by a set of student perceived teacher competencies? Do these mediational paths apply in the same way for both US and Finnish students? and (3) Do the components of youth purpose predict positive development in young people in both US and Finnish cultures?

### **Summary of results**

The analyses showed that, in general, students' perceptions of teacher support and competencies can play an important role in fostering purpose in secondary school students; however, there were important cultural differences in the way in which purpose was typically fostered. In the US sample, students who broadly perceived teachers in their school as being supportive of their purpose were more likely to have identified a purpose, be oriented toward

accomplishing their goals, and to have life goals that integrated a beyond-the-self component. In the Finnish sample, teacher support itself was only (indirectly) predictive of goal-directedness.

However, when Finnish students perceived certain competencies in their teachers, independent of their perceived levels of generalized teacher support, purpose was more likely to be enhanced; similar effects were found in the US sample. Notably, while some of the patterns of relationships among teacher competencies and purpose components were consistent across cultures, others differed. When students in both samples perceived their teachers would generally teach them why a class lesson or school experience was important, they were more likely to identify a life purpose as well as be more goal-directed. Moreover, when teachers were perceived by students as helping them understand how to plan for the future, they were more likely to be oriented toward BTS life goals. These practices may thus be universally beneficial toward promoting purpose in schools, or at least in Western cultures such as the US and Finland.

In the US sample in particular, students who felt their teachers pointed out the consequences of their actions were also more likely to be goal-directed. Additionally, when the importance of school was emphasized by teachers, American students were likely to have life goals intended to have an impact on the world beyond themselves. Indeed, the results of the mediational analyses in the US sample suggest that the benefits of perceived teacher support toward all three components of youth purpose are likely to at least partially go through these teachers' emphasis on helping students understand the importance of what they are doing in school. The benefits of perceived teacher support toward a greater inclination toward other-oriented life goals may also partially flow through teachers' emphasis on developing planning skills in their students. While this link may not on the surface seem intuitive, it is possible that when young people are better equipped to plan for the future, they may be more likely to see

beyond their immediate selves in the important life decisions that they make. Indeed, planfulness has been suggested to be a core underlying attribute of prosocial behavior (Penner, 2002).

In the Finnish sample in particular, teaching for planfulness in schools was associated with all three components of purpose (though planfulness was not a mediator of teacher support toward any of the purpose components). Unlike in the US sample, teaching for planfulness was significantly associated with goal-directedness as well as purpose identification. Independent of the lack of mediation, this represents an interesting cultural divergence in the results. While these phenomena certainly warrant closer examination in future research, one possible explanation involves the differences in educational system structures between the US and Finland. In Finland, by age 16 most students have committed (albeit not irreversibly) to either an academic-oriented “upper secondary school” track or a technical career-oriented “vocational school” track; the school years leading up to this fork in educational trajectories is highly likely to emphasize the importance of future planning and goal setting related to this commitment. Notably, in Finland, both the upper secondary track and vocational track are socially esteemed and likely to lead to opportunities for professional prosperity (Sahlberg, 2011). In American schools, the emphasis throughout secondary education is on “college-readiness,” which carries with it an implied stature not accorded those who are more oriented toward actualizing their vocational/technical skills (Symonds, Schwartz, & Ferguson, 2011). It may thus be the case that the benefits of teaching for planfulness are perceived by Finnish adolescents as even more potent and of higher relevance to one’s life goals, relative to US students. It would be important for future research to further investigate this hypothesis, as well as any potential age differences within the age range on which the present study focused.

While perhaps secondary to the focus on fostering purpose through teacher support and teacher competencies, the results showing relations among the purpose components and PYD are informative on a number of levels. While there is much research on relations among purpose and indicators of well-being, including some germane to youth development, few studies have directly investigated the relations of the three purpose components espoused herein (as have few operationalized PYD as the combination of self-assessments of one's subjective well-being, perceptions of being on a path to a hopeful future, and current maximization of one's potential). Though there are many potentially valid ways of conceptualizing and operationalizing these constructs, the emphasis here is less on issues of construct measurement validity and more on the capability of the present approach to disentangle the effects of the purpose components on positive development. In particular, it is notable that the three purpose components do not operate uniformly in their relations with PYD. In both samples, BTS-orientation weakly (in the Finnish sample, non-significantly) predicted PYD. These results run counter to much existing literature that suggests the presence of prosocial life aims is associated with greater personal growth and well-being (e.g., Hill, Burrow, Brandenberger, Lapsley, & Quaranto, 2010; Kasser & Ryan, 1996). However, previous research has not typically considered PYD as addressed in the present analyses, so it is possible that differences in the formulations of the outcome variables could explain the divergent results. In contrast to BTS-orientation, purpose identification and goal-directedness predicted PYD significantly with medium effect sizes. Additionally, in the Finnish sample, the effect size of the path from goal-directedness to PYD was considerably stronger than that of the effect size of the path from purpose identification to PYD. Aside from providing more grist for the mill of debate in this realm, these results importantly provide further

evidence of the (at least indirect) effects of teachers toward promoting not only purpose but broader positive youth development (Pianta & Allen, 2008).

### **Limitations and future directions**

As with any study that relies on self-report, closed-response survey data assessed at one point in time, especially of complex constructs such as purpose, the present work is limited by: its single source of information (esp. regarding the student-only assessment of teacher qualities), its limited ability to tap into the depth of understanding young people may provide via a qualitative assessment regarding their school experiences and impressions of their own levels and content of their purpose(s), and the cross-sectional nature of the data. On this last point, though the structural model proposed and tested herein suggests directionality (based on theory), longitudinal data would be much better suited for making any such empirical inferences.

Another methodological limitation involves the single-item indicators of teacher support and teacher competencies; multiple indicators of constructs are typically considered more suitable to reliable and valid measurement (however, for a defense of single-item measures, see Loo, 2002).

Future research would benefit from more robust assessment of not only the three teacher competencies for purpose investigated herein, but also of additional teacher competencies that may promote various aspects of purpose development (e.g., fostering of identity formation; Bronk, 2011; Burrow & Hill, 2011; Burrow, O'Dell, & Hill, 2010).

Further lines of inquiry may explore the degree to which some specific purposeful aims may be better fostered in educational settings compared to other specific purposeful aims. In particular, purposes that are not perceived by students to be related to their learning in school or their professional aspirations—especially those in the spiritual realm, which is among the most purposeful domains identified by youth (Bundick, 2009) but cannot be addressed in secular

schools such as those in the present study—may not be as well served by the development of the domain-general purpose-related capacities and competencies highlighted herein. To this end, future research could explore differences in these purpose-related capacities and competencies in secular and non-secular schooling environments; for example, religiously-affiliated schools may be in a better position to address spiritual development, which has been found to foster youth purpose (Tirri & Quinn, 2010).

Finally, as evidenced by the notable degree of unexplained variance in the purpose and PYD latent constructs, there are a variety of synergistic factors which may affect the potential role of the teacher in promoting them. Young people develop in a system of nested and interactive ecologies, of which school is only one (Eccles & Roeser, 2011); better understanding how the school ecology affects and is affected by other developmental ecologies would certainly shed further light on how teachers can and should strive to develop purpose in their students.

### **Concluding remarks**

At its core, the present work can be reduced to two summary statements: (1) Purpose is a key promotive factor of positive development in adolescence, and (2) Teachers have the capacity to foster purpose in their students, especially through particular competencies. Though in varying degrees and with foci on different competencies, these statements hold across both the US and Finnish samples. To the extent that schooling should be about the development of the whole child, and that teachers are a main conduit through which development in school happens, the primary implication of the present study is this: it is incumbent for teachers to strive to enhance their capacity for relationships with their students marked by knowledge and supportiveness of each student's larger life goals. Moreover, teachers and administrators should promote classroom and school environments in which the teacher competencies for purpose—

teaching future planning skills, keeping students mindful of the consequences of their actions, and continuously pointing out the importance and relevance for the work they are doing in school toward their future plans—are further developed and have opportunities to flourish.

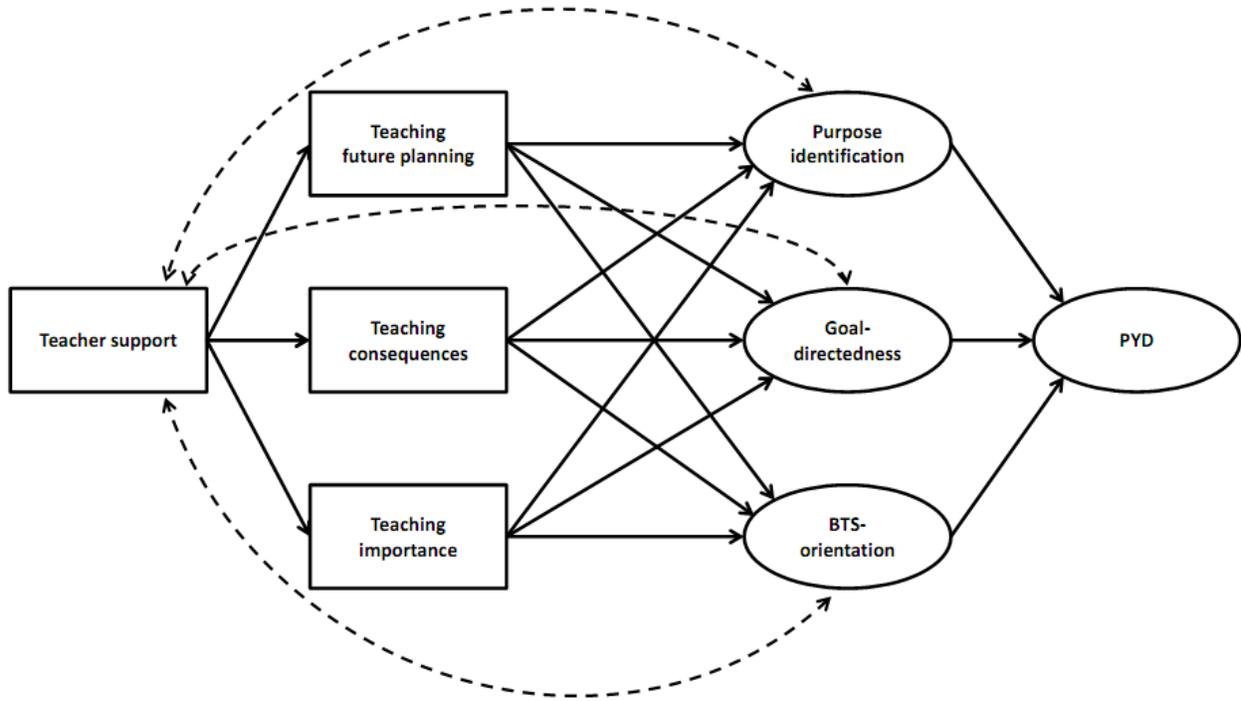
Hopmann (2007) noted that “the purpose of teaching and schooling is in this perspective neither to transport knowledge from society to a learner (curriculum), nor a transpositioning of knowledge from science or other domains to the classroom, but rather the use of knowledge as a transformative tool of unfolding the learner’s individuality and sociability, in short: the “Bildung” of the learners by teaching” (p. 115). This German concept of “Bildung,” Hopmann continues, further refers to the holistic aspect of pedagogy, and includes both development of one’s talents and abilities as well as development of one’s society. “Bildung” thus requires a passionate search for continual individual growth and the ability to engage in critical development of one’s society in order to actualize its highest ideals. In this way, the concept of “Bildung” provides the bridge between the importance of purpose development in youth, and the core, noble, and universal purpose of schools, in all countries.

Table 1

*Means, Standard Deviations, and Bivariate Correlations Among All Latent Variables*

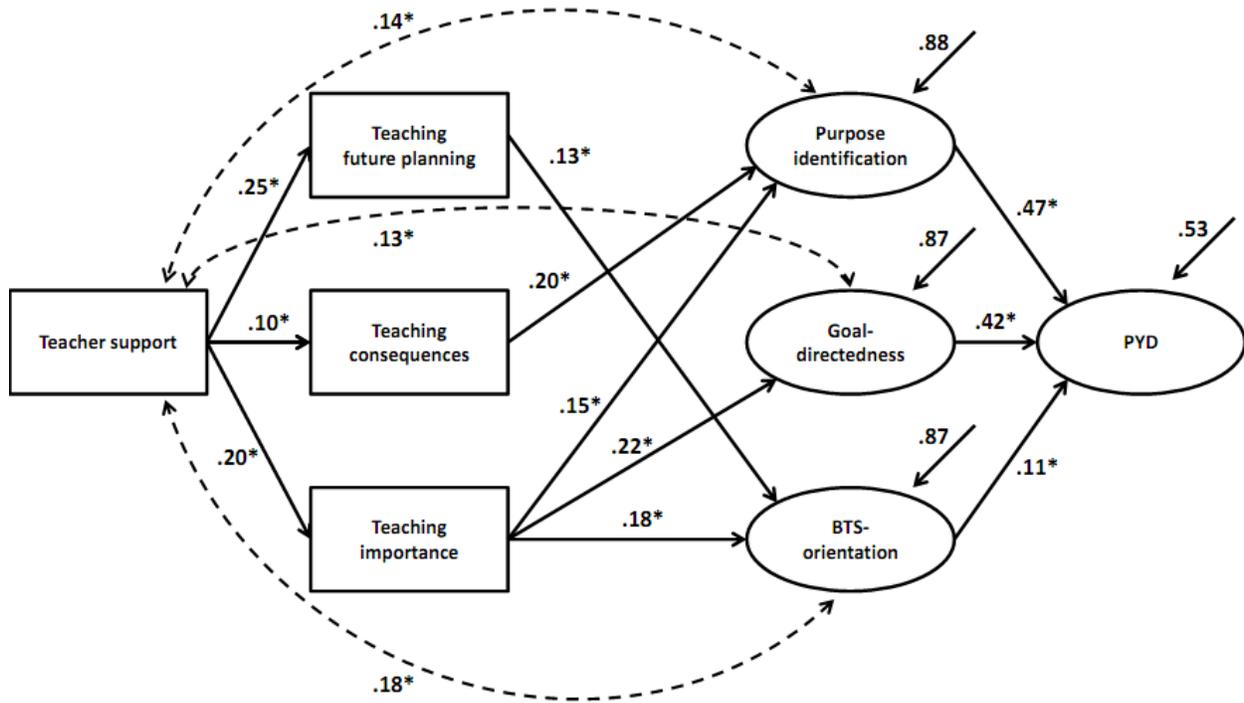
Variable	1	2	3	4	5	6	7	8
1. Teacher support	-	0.03 <sup>†</sup>	0.15	0.18	0.12 <sup>†</sup>	0.16	0.12 <sup>†</sup>	0.18
2. Teaching future planning	0.25	-	0.48	0.47	0.52	0.45	0.28	0.37
3. Teaching consequences	0.10	0.28	-	0.56	0.37	0.44	0.24	0.41
4. Teaching importance	0.20	0.46	0.47	-	0.42	0.52	0.21	0.47
5. Purpose identification	0.20	0.25	0.30	0.31	<i>.84/.82</i>	0.63	0.40	0.59
6. Goal-directedness	0.19	0.26	0.24	0.33	0.62	<i>.76/.69</i>	0.43	0.72
7. BTS-orientation of life goals	0.26	0.28	0.25	0.33	0.44	0.55	<i>.70/.66</i>	0.29
8. Positive youth development	0.25	0.24	0.31	0.31	0.66	0.66	0.44	<i>.81/.84</i>
Scale range	0-2	1-7	1-7	1-7	1-7	1-7	1-5	1-7
US Sample - Mean	0.82	4.88	5.38	4.99	5.05	5.13	3.65	5.73
US Sample - Standard deviation	0.78	1.62	1.34	1.61	1.23	1.17	0.74	1.12
FN Sample - Mean	0.74	4.09	4.64	4.57	4.42	4.61	2.97	4.85
FN Sample - Standard deviation	0.77	1.53	1.46	1.47	1.21	1.03	0.69	1.00

Note. US = United States, FN = Finnish, BTS = Beyond-the-self. US sample:  $n = 381$ ; Finnish sample:  $n = 336$ . The correlations above the diagonal represent the Finnish sample, those below the diagonal represent the US sample. The figures in italics on the diagonal represent scale composite reliabilities for the US and Finnish samples, respectively (these do not apply to the four single-item measures). All bivariate correlations were significant at  $p < .05$ , with non-significant exceptions noted by <sup>†</sup>.



Note. Dotted lines represent mediated paths. BTS = Beyond-the-self, PYD = Positive youth development.

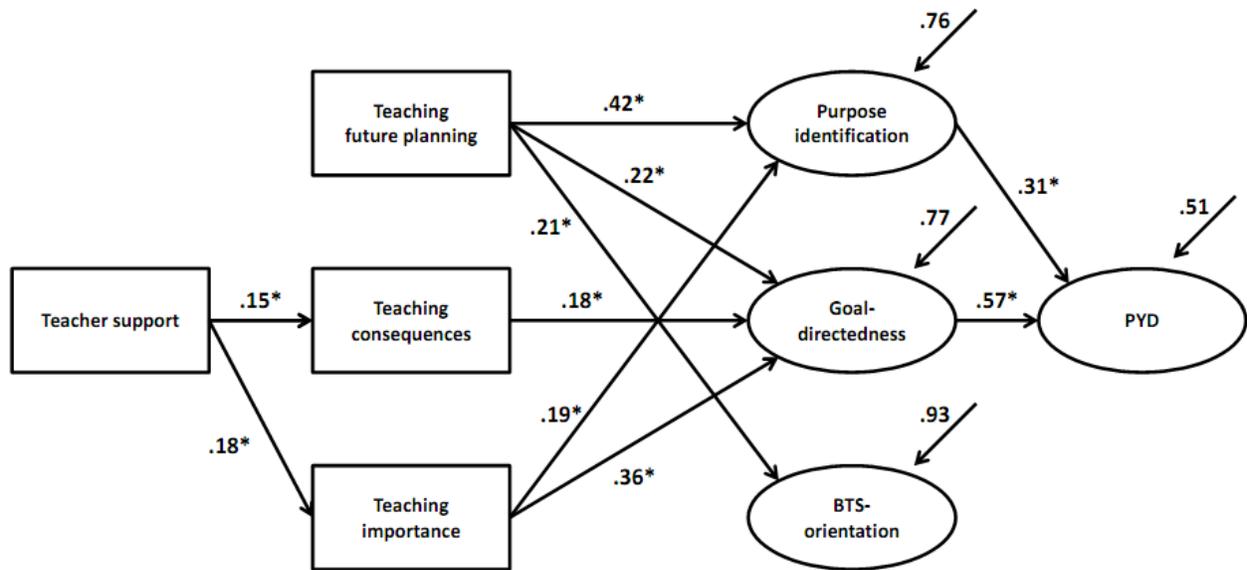
*Figure 1.* Hypothesized model of relations among teacher support, teacher competencies, purpose components, and positive youth development.



Note.  $N = 381$ . Only significant paths ( $p < .05$ ) are shown. Dotted lines represent mediated paths.

BTS = Beyond-the-self, PYD = Positive youth development.

Figure 2. Standardized coefficients for hypothesized model of relations among teacher support, teacher competencies, purpose components, and positive youth development in the US sample.



Note.  $N = 336$ . Only significant paths ( $p < .05$ ) are shown. BTS = Beyond-the-self, PYD = Positive youth development.

Figure 3. Standardized coefficients for hypothesized model of relations among teacher support, teacher competencies, purpose components, and positive youth development in the Finnish sample.

### References

- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, *103*(3), 411-423.
- Andrews, M. A., Rathman, K., & Moran, S. (2008). *Fostering purpose in schools*. Unpublished manuscript, Stanford University, Stanford, CA.
- Bacon, D., Sauer, P., & Young, M. (1995). Composite reliability in structural equations modeling. *Educational and Psychological Measurement*, *55*(3), 394-406.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173–1182.
- Benson, P. L., & Scales, P. C. (2009). The definition and preliminary measurement of thriving in adolescence. *Journal of Positive Psychology*, *4*, 85–104.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, *107*(2), 238–246.
- Bentler, P. M., & Bonnett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin*, *88*(3), 588–606.
- Bill & Melinda Gates Foundation. (2010). *Learning about teaching: Initial findings from the Measures of Effective Teaching Project*. Seattle, WA: Author.
- Bowers, E., Li, Y., Kiely, M., Brittain, A., Lerner, J.V., & Lerner, R. (2010). The Five Cs Model of Positive Youth Development: A longitudinal analysis of confirmatory factor structure and measurement invariance. *Journal of Youth and Adolescence*, *39*(7), 720–735.
- Bronk, K. C. (2011). The role of purpose in life in healthy identity formation: A grounded model. *New Directions for Youth Development*, *132*, 31–44.

- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 136–162). Newbury Park, CA: Sage.
- Bundick, M. J. (2009, February). *Enhancing College Students' Purpose in Life*. Paper session presented at the Annual Meeting of the Institute on College Student Values, Tallahassee, FL.
- Bundick, M. J., (2011). The benefits of reflecting on and discussing purpose in life in emerging adulthood. *New Directions for Youth Development*, 132, 89–104.
- Bundick, M. J., Yeager, D. S., King, P. E., & Damon, W. (2010). Thriving across the lifespan. In Lerner, R. M., Lamb, M. E., Freund, A. M. & Overton, W. F. (Eds.), *Handbook of life-span development, Vol. 1: Cognition, Biology and Methods* (pp. 882–923). Hoboken, NJ: John Wiley & Sons.
- Burrow, A. L., & Hill, P. L. (2011). Purpose as a form of identity capital for positive youth adjustment. *Developmental Psychology*, 47, 1196–1206.
- Burrow, A. L., O'Dell, A. C., & Hill, P. L. (2010). Profiles of a developmental asset: Youth purpose as a context for hope and well-being. *Journal of Youth and Adolescence*, 39, 1265–1273.
- Byrne, B. M., & Watkins, D. (2003). The issue of measurement invariance revisited. *Journal of Cross-Cultural Psychology*, 34, 155–175.
- Byrne, B. (1998). *Structural Equation Modeling with LISREL, PRELIS, and SIMPLIS: Basic applications and programs*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling*, 9(2), 233–255.

- Curran, P. J., West, S. G., & Finch, J. F. (1996). The robustness of test statistics to nonnormality and specification error in confirmatory factor analysis. *Psychological Methods, 1*, 16–29.
- Damon, W. (2008a). *The path to purpose: Helping our children find their calling in life*. New York, NY: Simon & Schuster.
- Damon, W. (2008b). The moral north star. *Educational Leadership, 66*, 8–12.
- Damon, W. (2009). The why question: Teachers can instill a sense of purpose. *Education Next, 9*(3), 84.
- Damon, W., Menon, J., & Bronk, K. C. (2003). The development of purpose during adolescence. *Applied Developmental Science, 7*, 119–128.
- Darling-Hammond, L. (1990). Teacher professionalism: Why and how? In A. Lieberman (Ed.), *Schools as collaborative cultures: Creating the future now*. London: The Falmer Press.
- Darling-Hammond, L., & Bransford, J. (2000). *Preparing teachers for a changing world: What teachers should learn and be able to do*. San Francisco, CA: Jossey-Bass.
- Diener, E., Emmons, R.A., Larsen, R.J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment, 49*, 71–75.
- Eccles, J., & Roeser, R. W. (2011). Schools as developmental contexts during adolescence. *Journal of Research on Adolescence, 21*, 225–241.
- Erikson, E. H. (1968). *Identity: Youth and crisis*. New York, NY: Norton.
- Flum, H., & Kaplan, A. (2006). Exploratory orientation as an educational goal. *Educational Psychologist, 41*, 99–110.
- Hill, P. L., Burrow, A. L., Brandenberger, J.W., Lapsley, D.K., & Quaranto, J.C. (2010). Collegiate purpose orientations and well-being in early and middle adulthood. *Journal of Applied Developmental Psychology, 31*, 173–179.

- Hopmann, S. (2007). Restrained Teaching: the common core of Didaktik. *European Educational Research Journal*, 6(2), 109-124.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1-55.
- Hu, L., Bentler, P.M., & Kano, Y. (1992). Can test statistics in covariance structure analysis be trusted? *Psychological Bulletin*, 112, 351-362.
- Husu, J., & Tirri, K. (2007). Developing whole school pedagogical values - a case of going through the ethos of "good schooling". *Teaching and teacher education* 23(4), 390-401.
- Jöreskog, K. G., & Sörbom, D. (2006). LISREL 8.80. Lincolnwood, IL: Scientific Software International.
- Jöreskog, K. G., Sörbom, D., du Toit, S., & du Toit, M. (2001). *LISREL 8: New Statistical Features*, 3<sup>rd</sup> Ed. Scientific Software International: Chicago, IL.
- Kasser, T., & Ryan, R. M. (1996). Further examining the American dream: Differential correlates of intrinsic and extrinsic goals. *Personality and Social Psychology Bulletin*, 22, 80-87.
- Kenny, D. A. (1979). *Correlation and causality*. New York, NY: Wiley.
- Kline, R. B. (2005). *Principles and practices of structural equation modeling* (2nd ed.). New York, NY: Guilford Press.
- Koshy, S. I. & Mariano, J. M. (2011). Promoting youth purpose: A review of the literature. *New Directions for Youth Development*, 132, 13–30.
- Labaree, D. (1997). Public goods, private goods: The American struggle over educational goals. *American Educational Research Journal*, 34(1), 39–81.

- Loo, R. (2002). A caveat on using single-item versus multiple-item scales. *Journal of Managerial Psychology, 17*, 68–75.
- Mariano, J. M. (Ed.) (2011). Support and instruction for youth purpose. *New Directions in Youth Development, 132*.
- Marsh, H. W., Hau, K. T. & Wen, Z., (2004). In search of golden rules: Comment on hypothesis testing approaches to setting cutoff values for fit indexes and dangers in over-generalizing Hu & Bentler's (1999) findings. *Structural Equation Modeling, 11*, 320–341.
- Moran, S., Bundick, M. J., Malin, H., & Reilly, T. S. (2012). How supportive of their specific purposes do youth believe their family and friends are?. *Journal of Adolescent Research*. Advance online publication. doi: 10.1177/0743558412457816
- Nurmi, J. E. (1991). How do adolescents see their future? A review of the development of future orientation and planning. *Developmental Review, 11*, 1-59.
- Pavot, W., & Diener, E. (1993). Review of the Satisfaction with Life Scale. *Psychological Assessment, 5*, 164–172.
- Penner, L. A. (2002). Dispositional and organizational influences on sustained volunteerism: An interactionist perspective. *Journal of Social Issues, 58*, 447-467.
- Pianta, R. C., & Allen, J. P. (2008). Building capacity for positive youth development in secondary school classrooms: Changing teachers' interactions with students. In M. Shinn & H. Yoshikawa (Eds.), *Towards positive youth development: Transforming schools and community programs* (pp. 21–39). New York: Oxford University Press.

- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, 36, 717-731.
- Raykov, T., & Shrout, P. E. (2002). Reliability of scales with general structure: Point and interval estimation using a structural equation modeling approach. *Structural equation modeling: A multidisciplinary journal*, 9(2), 195-212.
- Roberts, B. W., & Robins, R. W. (2000). Broad dispositions, broad aspirations: The intersection of personality traits and major life goals. *Personality and Social Psychology Bulletin*, 26(10), 1284-1296.
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57, 1069–1081.
- Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, 69, 719–727.
- Sahlberg, P. (2011). *Finnish lessons: What can the world learn from educational change in Finland?* New York: Teachers College Press.
- Satorra, A., & Bentler, P. M. (1994). Corrections to test statistics and standard errors in covariance structure analysis. In A. von Eye & C. C. Clogg (Eds.), *Latent Variables Analysis: Applications for Developmental Research* (pp. 399-419). Thousand Oaks, CA: Sage.
- Shultz, W., King, P. E., & Wagener, L. (2006, March). *Predictors of thriving in adolescence*. Paper presented at the Society for Research on Adolescence Biennial Conference, San Francisco, CA.

- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. In S. Leinhardt (Ed.), *Sociological Methodology 1982* (pp. 290–312). Washington DC: American Sociological Association.
- Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The meaning in life questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology, 53*, 80–93.
- Symonds, W. C., Schwartz, R. B, & Ferguson, R. (2011). *Pathways to Prosperity: Meeting the Challenge of Preparing Young Americans for the 21<sup>st</sup> Century*. Retrieved from Harvard University, Graduate School of Education website: [http://www.gse.harvard.edu/news\\_events/features/2011/Pathways\\_to\\_Prosperty\\_Feb2011.pdf](http://www.gse.harvard.edu/news_events/features/2011/Pathways_to_Prosperty_Feb2011.pdf)
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). New York: Allyn and Bacon.
- Tirri, K. (Ed.) (2008). *Educating moral sensibilities in urban schools*. Rotterdam/Taipei: Sense Publishers.
- Tirri, K. (2011). Holistic school pedagogy and values: Finnish teachers' and students' perspectives. *International Journal of Educational Research, 50*, 159–165.
- Tirri, K. (2012). The core of school pedagogy: Finnish teachers' views on the educational purposefulness of their teaching. In Niemi, H., Toom, A., & Kallioniemi, A. (Eds.) *Miracle of Education? Teaching and learning in Finland* (pp. 55–68). Rotterdam/Taipei: Sense Publishers.
- Tirri, K., & Husu, J. (2006). Pedagogical values behind teachers' reflection of school ethos. In M. Klein (Ed.), *New teaching and teacher issues* (pp. 163–182). New York, NY: Nova Science Publishers.

Tirri, K., Husu, J., & Kansanen, P. (1999). The epistemological stance between the knower and the known. *Teaching and Teacher Education, 15*, 911–922.

Tirri, K., & Quinn, B. (2010). Exploring the role of religion and spirituality in the development of purpose: Case studies of purposeful youth. *British Journal of Religious Education, 32*(3), 201–214.

Zhang, X., Nurmi, J-E., Kiuru, N., Lerkkanen, M-K., & Aunola, K. (2011). A teacher-report measure of children's task-avoidant behavior: A validation study of the Behavioral Strategy Rating Scale. *Learning and Individual Differences, 21*(6), 690–698.