

UC Davis

UC Davis Previously Published Works

Title

Ethnic pride and cultural values promote positive youth development in a conceptual replication of the Five Cs model.

Permalink

<https://escholarship.org/uc/item/22h249vt>

Journal

Developmental Psychology, 59(9)

Authors

Johnson, Lisa

Robins, Richard

Guyer, Amanda

et al.

Publication Date

2023-09-01

DOI

10.1037/dev0001570

Peer reviewed



Published in final edited form as:

Dev Psychol. 2023 September ; 59(9): 1543–1558. doi:10.1037/dev0001570.

Ethnic pride and cultural values promote Positive Youth Development in a conceptual replication of the Five Cs model

Lisa E. Johnson^{1,2}, Richard W. Robins¹, Amanda E. Guyer^{2,3}, Paul D. Hastings^{1,2}

¹Department of Psychology, University of California, Davis

²Center for Mind and Brain, University of California, Davis

³Department of Human Ecology, University of California, Davis

Abstract

The current study examined the Five Cs model of Positive Youth Development (PYD; Lerner et al., 2005) in U.S. Mexican-origin youth ($N = 674$, 50% female) and tested the extent to which ethnic pride, familismo, and respeto, as an index of cultural orientation, predicted PYD across mid-adolescence. PYD was modeled using a bifactor structure which defined global PYD and the Five Cs (Caring, Character, Competence, Confidence, and Connection) using theoretically similar measures matched to the conceptual definitions of the Cs. Tests of longitudinal invariance of the bifactor model at ages 14 and 16 established scalar invariance, providing support for the structure and stability of the Five Cs and global PYD using the theoretically similar measures across time. Adolescents' cultural orientation (latent factor incorporating familismo, respeto, and ethnic pride) at age 14 was positively associated with the Five Cs within and across time. Greater cultural orientation at age 14 predicted increased global PYD across ages 14 and 16. The contribution of cultural orientation to the PYD across mid-adolescence did not differ by adolescent gender or nativity. These findings demonstrate the robust nature and stability of the Five Cs model of PYD and provide novel evidence that ethnic pride, familismo, and respeto promote greater PYD in Mexican-origin youth during mid-adolescence.

Keywords

Positive Youth Development; Mexican-origin; Middle adolescence; Cultural Values; Ethnic Pride

Positive development, healthy adjustment, and effective functioning are more the norm than the exception among youth as they traverse adolescence (Dahl et al., 2018). Despite this normative pattern, less research has explored positive development in samples of ethnic/racial minority youth compared to white samples of youth in the United States (Kuperminc

Correspondence concerning this article should be addressed to Lisa E. Johnson, Center for Mind and Brain, 202 Cousteau Pl., University of California, Davis, California 95618; Phone: 530-297-4445; lisjohnson@ucdavis.edu.

Data, analysis code, and research materials are available upon request from the California Families Project (CFP) research team. A detailed plan of the study design, hypotheses, and analysis were uploaded to the Open Science Framework (OSF; <https://osf.io/kvj7x/>) and linked with the official OSF page for the CFP, fulfilling pre-registration requirements. Findings of the current study have not been presented at any academic conference, and this manuscript is not under review at another journal. All authors have agreed to the authorship order, and we have no conflicts of interest to disclose. This research was supported by grant R01DA017902 (RWR) from the National Institutes of Health.

et al., 2009; Lerner et al., 2017). This has been particularly true for U.S. Latinx youth (Azmitia, 2021). While the historical preponderance of research on Latinx adolescent development has focused on risks, deficits, and problematic outcomes (Kuperminc et al., 2009), the last decade of research has demonstrated a shift towards asset-based theory and research (Azmitia, 2021; Neblett Jr. et al., 2012). Positive Youth Development (PYD) is a strengths-based conceptualization of the individual traits, capacities, and strengths that enable adolescents to flourish (Benson et al., 2006). The goal of PYD-informed adolescent research is two-fold: to clarify the development of individuals' core strengths and to identify specific social, demographic, and cultural contexts intrinsic to this development. In meeting these goals, the Five Cs Model of PYD (Lerner et al., 2005) proposes that thriving can be operationalized through Caring, Character, Competence, Confidence, and Connection. However, there has been limited application of this specific model to the study of Latinx youth in the U.S. (Lerner et al., 2017), a rapidly growing demographic that has been particularly driven by those of Mexican origin. Thus, the current study was designed to assess whether the Five Cs model would demonstrate validity and stability within a sample of Mexican-origin youth in the U.S., and to examine whether cultural orientation contributes to PYD across middle adolescence.

Latinx youth development

The U.S. Latinx population encompasses all individuals with Mexican, South or Central American, Cuban, Puerto Rican, or any other Spanish culture or origin regardless of race (Azmitia, 2021; Kuperminc et al., 2009). This within-group heterogeneity may contribute to differences in exposure to developmental risks and opportunities, accessibility of community resources and support systems, and culturally specific strengths (Kuperminc et al., 2009). This variation carries significant implications for PYD studies of Latinx youth, a group representing one of the youngest and fastest-growing ethnic/racial demographics in the U.S. generally (Lopez et al., 2018; US Census Bureau, 2021) and California specifically (Ahn et al., 2022; Department of Finance, 2019). Consistent with the growing recognition in developmental science of the need for greater representation of diverse communities within the empirical literature (Cabrera & The SRCD Ethnic Racial Issues Committee, 2013; Lerner et al., 2017), it is imperative to expand the field's understanding of what thriving looks like in U.S. Mexican-origin youth. Identifying factors supporting the development of well-being in Mexican-origin youth is essential to understanding, and being prepared to support, the positive development of these youth within broader society.

For all youth, adolescence is a time of significant development across multiple domains (Crone & Dahl, 2012; Dahl et al., 2018), with particular growth found in one's identity (Allen, 2008). For Mexican-origin and other Latinx youth, adolescence includes the added features of balancing competing cultural systems to develop, practice, and embody an ethnic-racial identity (Constantine & Sue, 2006). Despite the predominant focus on risks and deficits in studies detailing how this additional pressure may contribute to challenges and problems (Kuperminc et al., 2009), the majority of Mexican-origin youth navigate adolescence successfully and report high levels of life satisfaction, career and educational aspirations, and future-oriented optimism (Azmitia, 2021; Lawson et al., 2020). Theories incorporating broader asset- and resilience-based frameworks have proposed that cultural

orientation and ethnic/racial identity processes may intrinsically underlie the positive psychosocial adjustment demonstrated by Mexican-origin youth (Lawson et al., 2020; Rew et al., 2015). As such, the cultural context experienced by Mexican-origin youth may act as a conduit for PYD, positively influencing their developing sense of self, increasing their self-confidence, competence, and connection to others, and consequently improving their life trajectory.

The Five Cs Model of PYD

Of the existing frameworks designed to study adolescent well-being and thriving, the Five Cs model of PYD designed by Lerner and colleagues (2005), is arguably the most often studied and empirically supported (Heck & Subramaniam, 2009). The original theory outlined two foundational hypotheses conceptualizing the possibility of optimal development for all youth. Bidirectional relations between the individual and their context are inherent in the first hypothesis which posits that when individual assets are aligned with ecological assets, optimal developmental outcomes have the highest probability of occurring (Lerner et al., 2005). In other words, if the strengths of youth are aligned with strengths in the environment, then healthy development occurs most fluidly. Healthy development was operationalized as a function of youth exhibiting high levels of the Five Cs – *Caring, Character, Competence, Confidence, and Connection* (see Table 1 for exact definitions by Lerner et al., 2005). Recognizing that each C reflects high functioning in a domain-specific area of well-being, the second hypothesis proposed that altogether, the Five Cs engender a general sense of flourishing, termed *global PYD*. These hypotheses have been largely supported by empirical tests demonstrating that cultivating the Five Cs promotes positive social-emotional and behavioral outcomes and can shift youth towards a healthier developmental trajectory (Bowers et al., 2010; Geldhof et al., 2014; Gomez-Baya et al., 2019; Holsen et al., 2017; Lerner et al., 2005).

As adolescence is a period of significant biological, psychological, and social growth (Crone & Dahl, 2012; Dahl et al., 2018), careful consideration is needed for investigating PYD across the adolescent years. With the onset of puberty and the entrance to middle school, youth must navigate increasingly complex social hierarchies with their peers, as well as develop their private and public identities in accordance with contemporary societal expectations (Allen, 2008; Arnett, 1997). Middle adolescence (ages 14 to 17) is additionally characterized by significant maturation in adolescents' capacity for effective cognitive and emotional regulation (Crone & Dahl, 2012). Previous research using the Five Cs model (Bowers et al., 2010; Geldhof et al., 2014) have demonstrated that testing longitudinal measurement invariance of PYD is useful for tracking individual differences during adolescence. Establishing longitudinal invariance of PYD helps to confirm that the same constructs are being measured at each age, allowing for meaningful statistical comparisons of the stability or change in PYD across time. Earlier tests of longitudinal measurement invariance of PYD have used hierarchical confirmatory factor analysis (CFA) (Bowers et al., 2010), whereas more recent studies have favored a bifactor structure (Geldhof et al., 2014). The bifactor structure arguably provides a more robust test of the PYD model (Geldhof et al., 2014; Holsen et al., 2017), as it allows multiple sources of true score variance to be modeled with a global PYD factor along with individual C factors. Additionally, this

structure allows for unique covariances between variables of interest (e.g., demographics) with the latent PYD factors and the individual Cs can freely covary without proportionality assumptions. Given that the Five Cs and PYD were originally measured and operationalized using a predominantly white sample, the present study was designed to determine whether the PYD constructs are defined in the same way for Mexican-origin youth during middle adolescence. To verify this, and assess change over time, we constructed a conceptual replication of the bifactor model of PYD and tested longitudinal measurement invariance of PYD across ages 14 and 16.

The current study design was derived from the foundational empirical work that validated the Five Cs model (Bowers et al., 2010; Geldhof et al., 2014; Gomez-Baya et al., 2019; Holsen et al., 2017; Lerner et al., 2005). However, the 4-H study of PYD, on which the Five Cs model was built, lacked a diverse or representative sample (Lerner et al., 2017; Spencer & Spencer, 2014). Consequently, the findings cannot be generalized to youth of color in the U.S., especially Mexican-origin and other Latinx youth. Moreover, the original tests of the Five Cs model did not consider the unique ecological factors and circumstances that impact the well-being of minoritized youth (Spencer & Spencer, 2014). Despite increasing interest in this area of research (Cabrera & The SRCD Ethnic Racial Issues Committee, 2013; Lerner et al., 2017), a limited understanding exists to date of what thriving entails for Mexican-origin youth in the U.S., due to the scarcity of culturally-informed longitudinal studies of PYD in diverse samples.

Cultural Orientation as a developmental asset

PYD theory proposes that thriving occurs when individual assets are aligned with family and community assets (Lerner et al., 2005, 2017), thus the study of adolescent thriving inherently necessitates the identification of the specific internal and external assets that are accessible to and utilized by the target sample. A key asset that may influence the psychosocial development of Mexican-origin youth is reflected in their enculturation of and orientation towards their family's ethnic and racial background (Acevedo-Polakovich et al., 2014; Gonzales et al., 2008). *Cultural Orientation*, defined herein as individuals' depth of ethnic pride and connection to their family's traditional cultural values, as a core strength promoting psychosocial health is noteworthy for its demonstrated contribution to the Five Cs and PYD-related outcomes (Neblett Jr. et al., 2012; Yu et al., 2019). Given the need of PYD research to better account for cultural relativity, the current study aims to deepen the field's understanding of minority youth embodiment of PYD by mapping the contribution of cultural orientation onto the Five Cs model of PYD across middle adolescence in a sample of Mexican-origin youth. We examined Mexican-origin youth *ethnic pride* and endorsement of the traditional Mexican family values, *familismo* and *respeto*.

Ethnic pride.

Developing an ethnic identity, or the sense of self as it connects to ethnicity, undergoes significant refinement during adolescence and typically stabilizes around high school age (Phinney, 1992). For those who have been historically excluded and systematically oppressed by the social majority, developing a positive self-concept regarding one's ethnic

and racial background is challenging (Spencer et al., 2002), yet a strong ethnic identity contributes to life satisfaction, feelings of belonging, and thriving in general (Alvarado & Ricard, 2013; Constantine & Sue, 2006; Rivas-Drake et al., 2014). Ethnic pride reflects a strong, positive perception of and connection with one's cultural background (Rivas-Drake et al., 2014) and has been associated with many positive developmental assets and outcomes for minority youth, including social connectedness, coping, and four of the Five Cs (Caring, Competence, Confidence, and Connection; Rew et al., 2015; Yu et al., 2019).

Cultural family values.

Aligned with cultural-ecological-transactional models of development (Coll et al., 1996), cultural values such as the traditional Mexican values of familismo and respeto represent key drivers of youth psychosocial adjustment (Constantine & Sue, 2006). By outlining acceptable standards of behavior, thoughts, and feelings within interpersonal relationships in one's community (Constantine & Sue, 2006), cultural values play a role in adolescent development by influencing identity, behavior, and decision-making. Familismo is defined as a strong sense of connection, loyalty, identification, and solidarity with one's nuclear family and extended circle of relatives that functions to advance the health and well-being of the family as a whole (Marín & Marín, 1991). Empirical work on minority youth in general and Latinx youth specifically, demonstrates the positive role familismo plays in psychosocial development, suggesting that familismo may promote PYD, specifically through positive associations with three of the Five Cs: Caring (Calderón-Tena et al., 2011; Knight et al., 2016), Competence (Gonzales et al., 2008), and Confidence (Constantine & Blackmon, 2002).

Respeto denotes feelings and attitudes of respect and deference to elders and members of authority within the family system (Calzada et al., 2010). The values of respeto and familismo conceptually overlap; as youth recognize and calibrate their behavior to reflect their role within the family hierarchy (respeto), feelings of attachment, connection, and loyalty to the family as a whole (familismo) are created (Stein et al., 2014). Respeto has been found to have promotive effects by increasing academic engagement (Gonzales et al., 2008), suggesting positive links between respeto and the academic element of Competence. Together, familismo and respeto have been argued to increase collectivistic beliefs and social empathy in Latinx youth, which conceptually parallels elements of Caring and Character (Segal et al., 2011).

Familismo and respeto may facilitate multiple domains of PYD-related processes by instilling a deep understanding and appreciation of one's unique role within a group, promoting empathy and providing a sense of personal empowerment and agency. Moreover, familismo, respeto, and ethnic pride are each connected to ethnic identity processes that stabilize during middle adolescence (Phinney, 1992). This developmental window, when the public and private regard youth hold towards their ethnic/racial background increases in salience, may offer skill-building opportunities for Latinx youth to consciously explore ethnic identity-related beliefs and values, foster community, and strengthen social ties. Consequently, the extent of their cultural orientation may shape the context of PYD as it is experienced by Mexican-origin youth (Alvarado & Ricard, 2013; Constantine & Sue, 2006;

Rivas-Drake et al., 2014). Given the evidence for psychosocial benefits of ethnic pride, familismo, and respeto for Latinx youth, the present study investigates their cumulative influence on the global PYD of Mexican-origin youth during middle adolescence.

Gender and nativity as potential moderators

Recent research suggests that gender identity may contribute to individual variability in youths' endorsement of the Five Cs, such that on average, men score higher on Competence and Confidence, while women score higher on Caring, Character, and Connection (Gomez-Baya et al., 2019; Wium et al., 2019). These gender differences in Caring are aligned with many studies of prosocial development indicating that women generally report more prosociality, especially sympathy-related behaviors and perspective-taking (Van der Graaff et al., 2018). Cross-sectional evidence of mean-level differences in the Five Cs is insufficient, however, for determining whether the developmental course of the Five Cs varies by gender, or whether gender moderates the extent of such factors as cultural orientation predict PYD. Potential gender differences in the predictors of the Five Cs and PYD have been relatively unexplored.

Additionally, the heterogeneity in immigration histories, acculturative status, and ethnic socialization practices of Mexican-American parents (Umaña-Taylor & Fine, 2004), collectively suggest that nativity may moderate the extent to which adolescents' cultural orientation predicts PYD. Latinx youth endorsement of traditional family values can vary by generational status (Calderón-Tena et al., 2011; Perez & Padilla, 2000), as youth born in Mexico may identify more strongly with the values and culture of Mexico compared to youth born in the U.S. with Mexican heritage (Perez & Padilla, 2000). The Five Cs and PYD-related constructs have not been found to differ significantly by nativity (Calderón-Tena et al., 2011; Knight et al., 2016; Yu et al., 2019), but whether nativity moderates associations between cultural orientation and PYD is undetermined. Thus, the current study explores gender and nativity as moderators of the concurrent and prospective relations between adolescents' cultural orientation and PYD.

The Current Study

In a sample of Mexican-origin youth, we examined the growth and stability of the Five Cs and global PYD across middle adolescence and investigated the relative influence of cultural orientation on global PYD. We tested four main research questions matched with respective hypotheses and addressed a fifth exploratory question for which no specific hypotheses were proposed. *RQ1*: Can the Five Cs model of PYD be used to define PYD in a sample of Mexican-origin youth using novel measures? *H1*: We expected theoretically similar measures to conform to a latent bifactor structure with each measure loading onto a global PYD factor, as well as its respective C, either Caring, Character, Competence, Confidence, or Connection. *RQ2*: Does the bifactor structure of the Five Cs and global PYD remain stable across middle adolescence? *H2*: We expected to establish longitudinal scalar invariance, thus confirming the stable structure of PYD over ages 14 to 16 in our sample. *RQ3*: Do youth fluctuate in their endorsement of PYD constructs from ages 14 to 16? *H3*: We expected to find stability in individual differences in the endorsement of

the Five Cs and global PYD across mid-adolescence. *RQ4*: To what extent does cultural orientation (defined as a latent composite of ethnic pride, familismo, and respeto) influence the development of PYD during mid-adolescence? *H4*: We expected youth-reported ethnic pride, familismo, and respeto to converge on a single latent factor structure and cultural orientation to predict the development of global PYD across mid-adolescence. *RQ5*: Do gender and nativity contribute to individual differences in the extent to which cultural orientation at age 14 predicts global PYD at age 16? Moderation by gender and nativity was tested with exploratory intent that did not include *a priori* hypotheses.

Method

Participants

The current study used data from the California Families Project (CFP), an ongoing longitudinal study of 674 Mexican-origin families living in Northern California. Families with a child in the fifth grade were randomly selected from school rosters in the 2006–2007 (first cohort) and 2007–2008 (second cohort) school years, and two cohorts of fifth-graders were recruited. Assessments were completed annually in each family's home. Interviews were conducted in either English or Spanish, depending on each participant's language preference. Sociodemographic analyses indicate that 63% of mothers and 65% of fathers reported having less than a high school education (median = 9th grade for both parents). The median household yearly income was between \$30,000 and \$35,000 with the overall range of reported income being < \$5,000 to > \$95,000.

Youth were categorized as first generation if their birth country was Mexico (29%); as second generation if their birth country was the U.S., and only one of their parents was reported as being born in the U.S. (62%); and as third generation if their birth country was the U.S. and both parents were born in the U.S. (9%). Due to the low percentage of third generation youth, we created a dichotomous nativity status variable for comparing first generation (born in Mexico) to second- and third-generation (born in U.S.) youth in all analyses (0 = first-generation; 1 = second or third-generation). Of the participating families, 124 were single-parent, mother-led households, and 549 were two-parent households. This study was approved by the lead author's university Institutional Review Board. All parents provided informed consent and adolescents provided assent, and all participants were compensated for their time and contribution.

This study utilized the full sample available in the CFP. The sample size of the CFP was determined by the original goals of the project, pertaining to risk and protective factors contributing to substance use by Mexican-origin adolescents, rather than the specific questions posed in the current report. The current analyses use data from the assessments collected when participants were in middle adolescence. 605 adolescents completed an assessment in the ninth grade (50.5% female, $M_{age} = 14.75$, $SD = 0.49$), which was in 2010–2011 or 2011–2012 for the two cohorts, and 600 adolescent participants completed the next assessment in the eleventh grade (50.2% female, $M_{age} = 16.80$, $SD = 0.51$), in 2012–2013 and 2013–2014. Of the participants used in the current analyses, 580 completed both time points, 25 completed the ninth-grade assessment only, and 20 completed just the eleventh-grade assessment ($N = 625$ total).

Measures

Positive Youth Development.—Although the CFP was not originally designed to test the Five Cs model of PYD, the adolescent interview included multiple self-report measures of social-emotional development and academic and behavioral competence that conceptually overlapped with the PYD constructs. We operationalized PYD using a select set of scales based on the theoretical definitions of the Five Cs (Lerner et al., 2005) and prior empirical measurement (Geldhof et al., 2014) detailed in Table 1. For specific psychometric and descriptive details of all manifest items or item-composites selected for the current study, see Supplemental Table S1. A detailed comparison of the internal consistency of each measure with previous studies utilizing the same psychometric tools with samples of Latinx and other ethnic/racial minority youth can be found in Supplemental Materials.

Caring was defined using six items taken from the Consideration of Others subscale of the Weinberger Adjustment Inventory (WADI; Weinberger & Schwartz, 1990). These items are scored on a scale of 1 (not at all true) to 5 (very true) with higher scores reflecting higher reported care and consideration for others' needs and feelings. An example of a Caring item is "You try very hard NOT to hurt people's feelings." Cronbach's alphas for ages 14 and 16 were .83 and .86, respectively.

Character was defined using two measures that most closely represented the Social Conscience and Personal Values subscales of the PYD-SF. We operationalized Social Conscience using the Agreeableness subscale of the Big Five Inventory (BFI; John et al., 2008), which was composed of nine items scored on a scale of 1 (strongly disagree) to 4 (strongly agree). An example item from this subscale is "Likes to cooperate with others." Cronbach's alphas for ages 14 and 16 were .68 and .64, respectively. We operationalized Personal Values using the Honesty/Trustworthiness subscale of the Self-Description Questionnaire (SDQ; Marsh et al., 2005), composed of six items scored on a scale of 1 (not at all true) to 4 (very true). An example item from this subscale is "You always tell the truth". Cronbach's alphas for ages 14 and 16 were .75 and .73, respectively.

Competence was operationalized using measures depicting Grades, Scholastic Competence, and Social Acceptance. For Grades, we included a single item asking "On average what grades do you get in school?" This item was scored on a 1 (Mostly F's) to 5 (Mostly A's) scale. For Scholastic Competence, we used all four items of the School subscale of the SDQ (Marsh et al., 2005), e.g., "You are good at most school subjects." Items are scored on the same 1–4 scale described above, and Cronbach's alphas were .77 and .76 for ages 14 and 16, respectively. Our measures of Social Acceptance include the same-sex popularity and opposite-sex popularity subscales of the SDQ (Marsh et al., 2005). Each of these subscales includes four items that were scored on a 1 to 4 scale and averaged into two measures reflecting popularity and acceptance. For same-sex popularity, Cronbach's alphas were .68 and .67 for ages 14 and 16, respectively. For opposite-sex popularity, Cronbach's alphas were .65 and .64.

Confidence was measured with self-reports closely matching the Self-Worth, Positive Identity, and Physical Appearance subscales of the PYD-SF. For Self-Worth and Positive Identity, we used the six-item Self-Esteem subscale of the SDQ (Marsh et al., 2005), and all

ten items of the Rosenberg Self-Esteem Scale (Rosenberg, 1965), respectively. While both measures of global self-esteem, the language of the items on these scales matched or closely overlapped with the delineation of Self-Worth and Positive Identity items on the PYD-SF, and thus to remain consistent, we mirrored the terminology of the PYD-SF. Both scales were scored as an average of items with responses ranging from 1–4. An example Self-Worth item is “Overall, you have a lot to be proud of.”, and reliability alphas were .80 and .79 for ages 14 and 16, respectively. An example Positive Identity item is “On the whole, I am satisfied with myself.”, and reliability alphas were calculated as .85 for both time points. Physical Appearance was also measured using a four-item subscale of the SDQ reflecting adolescents’ positive perceptions of their appearance. The subscale includes items such as “You are good looking.” Reliability for this subscale were .89 at age 14 and .88 at age 16.

Connection was defined with self-reports of adolescents’ family, peer, and school social support networks. Family and Peer Connection were measured with items from the Multidimensional Scale of Perceived Support (MSPS; Zimet et al., 1988). Family Connection reflected immediate family and relatives using eight items such as “Your family really tries to help you.” Peer Connection reflected adolescents’ close friendships using four items such as “You have friends with who you can share your joys and sorrows.” Reliability for the MSPS was .92 and .91 for ages 14 and 16, respectively. School Connection was measured using the Child-Teacher Attachment scale, an adaptation of the parent and peer attachment scale created by Armsden and Greenberg (1987). The scale includes nine items measuring adolescents’ perceptions of closeness and connection to teachers. An example item for this scale is “You could count on a teacher when you needed to talk. Items were scored on a 1 (almost never or never) to 4 (almost always or always) scale, and Cronbach’s alphas were .93 and .92 for ages 14 and 16, respectively.

Cultural Orientation.—At age 14, adolescents completed three questionnaire measures reflecting their endorsement of Mexican-American values and ethnic pride which together, encompassed cultural orientation as a latent construct. Adolescents’ feelings of ethnic pride were captured with the Mexican-American Ethnic Pride (MAEP; Phinney, 1992) scale. This scale includes eight items scored on a 1 to 4 scale, and its Cronbach’s alpha was .85. An example item from the MAEP is “You feel a strong attachment towards your own ethnic group.” To capture adolescents’ endorsement of familismo, the six-item Family Values (FVAL; Villarreal et al., 2005) scale and the sixteen-item Familismo subscale of the Mexican-American Cultural Values Scale (MACVS; Knight et al., 2010) were used. FVAL represents attitudinal familismo and includes items such as “You are proud of your family”. FVAL items were scored on a 1 (strongly disagree) to 4 (strongly agree) scale and averaged together. The Familismo subscale of the MACVS (i.e., MACVS-F) reflects aspects of family support, obligations, and identification of the self within the family unit (e.g. family as a reflection of the self). These items were scored on a 1 (not at all) to 4 (very much) scale, and items were averaged together to create a mean familismo value. An example item from this subscale is “It is important for family members to show their love and affection to one another.” Cronbach’s alphas for the familismo subscales were .75 (FVAL) and .87 (MACVS-F). Adolescents’ endorsement of respeto was also measured using a subscale of the MACVS with eight items reflecting the prioritization of family hierarchy and respect

for authority figures. An example item from this subscale is “Children should always be polite when speaking to any adult.” Items were averaged to create a mean value of respeto. Cronbach’s alpha was .77 for these items.

Transparency and Openness

Following the APA Style Journal Article Reporting Standards (JARS) for quantitative studies, data and research materials are available upon request from the CFP research team. Analysis code is available upon request from the first-author. A detailed plan of the study design, hypotheses, and analysis was uploaded to the Open Science Framework (OSF; <https://osf.io/krj7x/>) and linked with the official OSF page for the CFP, fulfilling pre-registration requirements. Study hypotheses were tested in R (version 4.0.3) by specifying structural equation models using the lavaan package (Rosseel, 2012). All models utilized full-information maximum likelihood and maximum likelihood estimation with robust standard errors to account for missingness and adjust for any non-normality. Model fit was evaluated with the chi-square (χ^2) goodness of fit statistic, the CFI, and the root mean square error of approximation (*RMSEA*; Browne & Cudeck, 1992). Model fit was considered excellent if the χ^2 *p*-value was non-significant (a standard that is commonly violated in large sample sizes due to the sensitivity of the test), the *CFI* was $> .95$, and the *RMSEA* was $< .05$, with a confidence interval upper-bound of $< .08$. Likewise, model fit was considered good or acceptable if the *CFI* was $> .90$, and the *RMSEA* was $< .08$.

Analytic Strategy

Global PYD and the Five Cs were modeled using a bifactor structure, such that manifest variables were designated to load onto a global PYD factor, as well as an individual factor representing that variable’s respective C (set as orthogonal to the overarching PYD factor; see Figure 1). Our sample size met expectations for being able to achieve acceptable convergent rates and accurate parameter estimates in latent bifactor models (Bader et al., 2022). We first tested separate cross-sectional bifactor models for each measurement occasion in order to validate the Five Cs model of PYD using these data in our sample of Mexican-origin youth. A well-fitting model at this stage was seen as evidence supporting H1. Next, we tested longitudinal measurement invariance of the bifactor structure across adolescent ages 14 and 16 using standard procedures (Little, 2013). Models representing configural, metric, and scalar invariance were sequentially tested. For model comparison, we conducted a series of chi-square difference tests for nested models and evaluated change in the comparative fit index (*CFI*; Bentler, 1990) using the $CFI < .01$ criterion suggested by Cheung and Rensvold (2002). Establishing longitudinal configural, metric, and scalar invariance is required for meaningful comparisons in the factor means across time. Constraining factor loadings (i.e., metric invariance) and intercepts (i.e., scalar invariance) across measurement occasions scales the latent means and variances in a comparable metric, which then enables the identification of developmental trends. Further details concerning study-specific decisions regarding model specification, autocovariances of like items, and model fit comparisons of the measurement invariance models can be found in Supplementary Materials. The testing of longitudinal measurement invariance, specifically results from the scalar invariance model, will address the first three hypotheses,

as establishing scalar invariance provides further theoretical support for the Five Cs structure (H1) and stability across time (H2 and H3).

We tested H4 by first specifying a CFA model defining cultural orientation as a latent factor using manifest indicators of ethnic pride, familismo, and respeto, then incorporated this CFA into the scalar invariance bifactor model of PYD. This model specified autocorrelations among the six PYD factors, correlations among the residual Cs and cultural orientation both within and across time, and predictive associations regressing global PYD onto cultural orientation at both measurement occasions (Figure 2). Lastly, we examined adolescents' gender and nativity as moderators of the associations between cultural orientation and global PYD.

Results

The first goal of the current study was to test a conceptual replication of the Five Cs model of PYD in a sample of Mexican-origin adolescents using a bifactor modeling approach. The second goal was to investigate whether longitudinal measurement invariance at the configural, metric, and scalar levels could be confirmed for the bifactor model of PYD. If scalar invariance is confirmed, results would suggest that the Five Cs structural model of PYD was measured in the same way across time. Confirmation of a scalar bifactor model would additionally inform whether youth endorsement of the Five Cs and PYD remained stable, indicating rank-order stability of the latent constructs across time. The third goal was to examine cross-sectional and longitudinal relations between youth endorsement of the Five Cs, global PYD, and cultural orientation. The last goal was to test adolescent gender and nativity as moderators of cultural orientation at age 14 predicting PYD at ages 14 and 16.

Validation of the Five Cs model of PYD

We first tested whether the theoretical concepts of the Five Cs and PYD could be conceptually replicated within these data (H1) by estimating two cross-sectional models using the bifactor analysis structure depicted in Figure 1. For both measurement occasions, the same model described the hypothesized structure well (Age 14: $\chi^2(106) = 241.33$, $p = .000$, $CFI = .965$, $RMSEA = .048$ [.040, .056]; Age 16: $\chi^2(106) = 231.97$, $p = .000$, $CFI = .967$, $RMSEA = .046$ [.038, .054]). In both models, a residual covariance was specified between two manifest items loading onto Caring as these items shared method variance not accounted for by the bifactor model structure. See Table S2 in Supplemental Materials for factor loadings of the Five Cs and PYD modelled separately at each age. The results of this first set of CFAs supported H1 by indicating that these data sufficiently represented adolescents' PYD by significantly loading onto latent constructs defining the Five Cs and PYD.

Testing Longitudinal Measurement Invariance of the Bifactor model of PYD

To further test the validity of the Five Cs model of PYD, we tested H2 by analyzing longitudinal measurement invariance of the bifactor model across adolescent ages 14 and 16 by specifying a series of nested CFA model structures. First, we established configural invariance by estimating a longitudinal bifactor model incorporating data from both ages,

including same-item residual covariances (Model 1; $\chi^2(493) = 812.41, p = .000, CFI = .966, RMSEA = .033 [.029, .037]$). The latent structures defining the Five Cs and global PYD were scaled using the fixed factor method, such that at both ages, factor variances were fixed to 1, and factor means were fixed to 0. Demonstrating that manifest variables loaded on the same individual C and global PYD factors over time confirmed that the hypothesized structure sufficiently represented this sample of adolescents' endorsement of the Cs and PYD across time. Next, we tested metric invariance in a two-step fashion by first constraining the factor loadings of all like manifest indicators on their respective Cs to be equal across time and releasing the factor variance constraints for the residual Cs at age 16 (Model 2; $\chi^2(506) = 816.73, p = .000, CFI = .967, RMSEA = .033 [.028, .037]$). Second, we specified additional equality constraints for corresponding factor loadings onto global PYD across time and released the variance constraint on global PYD at age 16 (Model 3; $\chi^2(523) = 831.67, p = .000, CFI = .967, RMSEA = .032 [.028, .036]$). The specified constraints in Models 2 and 3 did not significantly decrease fit, therefore metric invariance was established. We next tested scalar invariance by constraining the intercepts of like manifest variables across time and freeing the age 16 factor means (Model 4; $\chi^2(535) = 886.32, p = .000, CFI = .962, RMSEA = .034 [.030, .038]$). This model did not significantly worsen fit in comparison to its predecessor, establishing scalar invariance of the bifactor model across ages 14 and 16, and indicating stability of like manifest intercepts across time. Model fits for all of these CFAs were in the excellent range; fit comparison tests are presented in Supplemental Materials, Table S3.

Results of the scalar invariance model supported hypotheses by evincing longitudinal validity of the bifactor model (H1) and indicating that the factor structure of the Five Cs and PYD latent constructs remain stable across time (H2). Standardized factor loadings from the scalar invariance model, displayed in Table 2, indicated that all manifest variables significantly and positively contributed to their respective latent C and to the global PYD construct, with the exception of our measures of Social Acceptance. Although Same-sex and Opposite-sex Popularity significantly contributed to the global PYD construct with positive loadings, these indicators produced negative loadings within the Competence factor structure at both measurement occasions, whereas scholastic competence produced consistent positive loadings across time. This split in loading valence indicates that the residual Competence factor is composed of both positive and negative dimensions that fluctuate in importance depending on whether the factor score increases or decreases over time. In other words, decreases in Competence reflects an emphasis on the popularity dimension, while the scholastic dimension is emphasized when Competence increases over time (although, on average, there was not significant change in Competence from ages 14 to 16). Given that the age 14 factors were scaled as the reference group, the consistent pattern of loadings at both ages suggests a stronger emphasis on the popularity dimension of Competence within this sample.

Longitudinal stability and correlations among Global PYD and residual Cs

Establishing longitudinal scalar invariance in the current sample allows for the longitudinal comparison of factor means and the inspection of correlations among global PYD and the Five Cs (H3). Latent means and variances for the PYD constructs at each age are presented

in Table 3 as estimated in the scalar invariance model. Because the age 14 latent PYD factors were treated as the reference group using fixed factor scaling, any significant estimates of the age 16 factor means and variances produced by the scalar invariance model can be compared to 0 and 1, respectively. We found mean-level stability in Caring, Character, Competence, and Confidence, and decreases in Connection and global PYD across time. These mean-level changes mirror those seen in the standardized factor loadings produced by the scalar invariance model (see Table 2), as well as the raw descriptive means outlined in Supplemental Materials, Table S1. Latent correlations among the residual Cs and global PYD resulting from the scalar invariance model are displayed in Table 4. Our findings show moderate rank-order stability (r_s .48-.64) of global PYD and the Five Cs across mid-adolescence. Cross-sectional inter-C associations were comparable at age 14 (r_s .34-.70) and age 16 (r_s .29-.64), with the strongest correlations at both ages between Caring and Character. Longitudinal correlations among the residual Cs ranged from small to moderate in magnitude (r_s .19-.46). Overall, results supported H3 and suggest that adolescents' global PYD, together with their unique aspects of PYD (i.e., value of each C, holding global PYD constant) remained relatively stable across the mid-adolescent period.

Predictive Relations between Cultural Orientation and Global PYD

We tested the extent to which cultural orientation was associated with PYD (H4) in two steps. First, we conducted a CFA using adolescent-reported ethnic pride, familismo, and respeto at age 14 to define a latent factor depicting what the current study termed cultural orientation. This model specified a residual covariance between the familismo and respeto subscales of the MACVS (Knight et al., 2010) as these indicators shared method variance not otherwise accounted for by the CFA structure defining cultural orientation. This overlap in variance was attributed to these indicators coming from the same source, and thus, including their residual covariance provided a more nuanced and accurate representation of the data. Indeed, without this specification, the cultural orientation single factor structure fit the data significantly worse ($CFI = -0.055$; $RMSEA = -0.173$), compared to a model including the residual covariance, which produced excellent model fit ($\chi^2(1) = 0.029$, $p = .866$, $CFI = 1.000$, $RMSEA = 0.000$ [0.000, 0.054]). As such, the CFA depicting cultural orientation accounting for one residual covariance was retained for the remaining analyses. The latent cultural orientation factor was scaled using the fixed factor method, such that its latent mean was constrained to 0, its variance constrained to 1, and all of the manifest loadings, intercepts, and variances were freely estimated. Standardized factor loadings ranged from 0.493 (respeto) to 0.682 (familismo subscale of the FVAL) and all manifest variables significantly contributed to the latent factor.

Next, we incorporated the cultural orientation CFA structure within the scalar invariance bifactor model of PYD. This model yielded excellent model fit ($\chi^2(674) = 1089.01$, $p = .000$, $CFI = 0.960$, $RMSEA = 0.032$ [0.029, 0.036]). Table 4 includes correlations between cultural orientation and the residual C constructs, as well as longitudinal predictive associations between cultural orientation and global PYD within and across time. Cultural orientation significantly and positively predicted PYD cross-sectionally and longitudinally, accounting for the stability of PYD across time. As the model accounted for the autocorrelations between PYD and residual Cs at ages 14 and 16, these findings indicate that

stronger cultural orientation predicted greater PYD at age 16, after controlling for age 14 PYD. Cultural orientation was significantly associated with all residual Cs at ages 14 and 16, with the exceptions of Competence at age 14 and Confidence at age 16. Latent correlations with cultural orientation were stronger when considering cross-sectional associations (r s .48-.81) compared to longitudinal relations (r s .31-.60), and the strongest association at both ages was between cultural orientation and Connection. These findings support H4 in that all relations among latent variables were largely significant and primarily positive, suggesting that greater engagement with and pride regarding one's ethnic and racial identity and family values was related to greater embodiment of the Five Cs and PYD both cross-sectionally at age 14 and longitudinally across the mid-adolescent span.

Gender and nativity as potential moderators

Lastly, we tested a model incorporating adolescents' gender and nativity as moderators of the cross-sectional and longitudinal effects of cultural orientation on global PYD (RQ5). Latent factors representing global PYD were extracted from the scalar invariance bifactor model and the cultural orientation latent factor was extracted from its solo CFA. Factors were extracted so that moderation by gender and nativity could be tested with a simple path analysis that accounted for the complex structural nature of the bifactor model without overpowering our sample size. Global PYD at age 14 and cultural orientation were mean-centered prior to computing interaction terms so that zero represents a meaningful reference when probing significant interactions. Two interaction terms were calculated (i.e. Gender-by-Cultural Orientation and Nativity-by-Cultural Orientation) and integrated into a simple path analysis testing whether the effects of cultural orientation on PYD within and across time differed by adolescents' gender and nativity. This model yielded null results for both moderators (model fit and parameter estimates displayed in Supplemental Materials, Table S4). Thus, in our sample, the positive impact of cultural orientation on adolescents' developing PYD across mid-adolescence was consistent across gender and nativity.

Discussion

The current study addressed a need to confirm the applicability of the Five Cs model of PYD with diverse youth, and specifically within a sample of Mexican-origin adolescents. We explored the development of PYD in relation to youth endorsement of ethnic pride, familismo, and respeto, cultural values that collectively represent a cultural strength that may promote PYD in Latinx samples. Using data from the CFP, a longitudinal study of Mexican-origin youth living in California, we first found evidence validating the Five Cs model of PYD. Next, by testing a longitudinal bifactor model of PYD, we found that adolescents' endorsement of the Five Cs and global PYD remained stable across ages 14 to 16 (i.e., scalar invariance). Aligned with our hypothesis that cultural orientation is an important contributor to PYD, we found that greater endorsements of ethnic pride, familismo, and respeto were altogether positively associated with the Five Cs and predicted global PYD within and across time. Specifically, adolescents' cultural orientation predicted growth in PYD over time, suggesting that ethnic pride, familismo, and respeto represent significant drivers of psychological well-being for Mexican-origin youth during mid-adolescence. Finally, we showed that these findings were consistent across adolescents' gender and

nativity. Altogether, this study contributes to PYD research by providing novel evidence of the structure and stability of PYD in a sample of Mexican-origin youth during mid-adolescence, identifying culturally-relevant individual strengths, and demonstrating their promotive influence on global PYD in this sample.

Theoretical implications

Testing whether long-standing theories can be empirically reproduced with alternative measures and within a range of populations is important for evaluating their continued empirical usefulness and validity. By documenting the bifactor structure of the Five Cs model of PYD in a Mexican-origin sample using independent measures, the present study contributes to replicability efforts and deepens the field's understanding of PYD in diverse populations. These findings uphold the robust nature of the Five Cs theoretical constructs by evincing that they are not inherently dependent on original measurement procedures. Furthermore, confirmation of the presence and stability of PYD in Mexican-origin youth during mid-adolescence supports prior work (Bowers et al., 2010; Geldhof et al., 2014), and positions the Five Cs theory as a viable strengths-based approach to studying healthy and adaptive development in Mexican-origin youth and, upon empirical confirmation, in other Latinx youth samples. Our findings provide novel evidence that the Five Cs model may be helpful for defining what thriving looks like for Mexican-origin youth in America, and offer a counterpoint to past research focused on risk and problematic outcomes (Kuperminc et al., 2009). As the field embraces asset-based theory and research (Azmitia, 2021; Neblett Jr. et al., 2012), efforts to conceptually replicate existing theories of positive development or design new ones within a culturally-informed framework may become increasingly prevalent. This work stands to expand the scope of PYD research by taking into account the unique ecological assets and structural factors that directly or indirectly influence the well-being of historically marginalized youth (Spencer & Spencer, 2014).

Results additionally confirmed that, excluding the residual Competence factor, all manifest variables contributed to their respective Cs and global PYD in the hypothesized manner derived from theory (Lerner et al., 2005) and psychometric testing (Bowers et al., 2010; Geldhof et al., 2014). Our study measured social acceptance using youth-reported ratings of popularity with same and opposite sex peers, and although these indicators significantly and positively loaded onto global PYD, there were significant negative loadings for both popularity indicators on the residual Competence factor. Thus, while all other latent factors defined by these data mirror those defined in the prior PYD literature, our Competence construct reflected a dynamic mix of both positive (scholastic competence) and negative (popularity) dimensions. Whether this pattern of factor loadings within the Competence structure can be strictly attributed to these data, or whether the scope of Competence is categorically different for Mexican-origin youth, warrants further investigation. We must additionally note, that aligned with Lerner and colleagues (2005), our physical appearance indicator significantly loaded on both global PYD and the residual Confidence factor, yet this runs counter to more recent studies of PYD modelled with a bifactor structure (Geldhof et al., 2014; Holsen et al., 2017).

By demonstrating that Mexican-origin youth's ethnic pride and endorsement of cultural values promotes psychosocial well-being during middle adolescence, the present study centers ethnic identity development and connection to cultural history as developmental assets for Latinx youth. This supports previous arguments proposing ethnic identity (and the processes through which this identity is developed and formalized) as a competency promoting adolescents' psychosocial adjustment for diverse youth broadly (Kuperminc et al., 2009; Neblett Jr. et al., 2012), and for Latinx youth specifically (Acevedo-Polakovich et al., 2014; Rew et al., 2015; Wantchekon & Umaña-Taylor, 2021). Youth positive socialization and internalization of their cultural context can protect against maladjustment while promoting multiple PYD domains, namely Competence, Caring, and Connection (Gonzales et al., 2008; Rew et al., 2015; Segal et al., 2011; Yu et al., 2019). Further, there is evidence that mid- to late adolescents who report having an achieved ethnic identity may be less adversely affected by racial discrimination (Wakefield & Hudley, 2007), suggesting that those who take pride in their ethnicity may have greater self-esteem (Confidence) or adaptive coping strategies (Competence) that increase their preparedness for dealing with racialized inequity. Thus, the current findings align with past work connecting ethnic pride, familismo, and respeto with healthier psychosocial adjustment, and underscore middle adolescence as an important developmental context for deconstructing the complex connections of ethnic identity and ethnic pride with various dimensions of well-being.

When considering how cultural orientation functionally promotes PYD, the processes through which adolescents develop their ethnic pride and identify with cultural values are important to discuss. One of the core needs of adolescence, or the developmental tasks characteristic of this period that need to be safely met and surpassed (UCLA Center for the Developing Adolescent, 2022), is the exploration and definition of adolescents' self-concept. In grappling with questions such as "Who am I?" and "What do I value?", adolescents create a sense of personal meaning, belonging, and empowerment, which may culminate in a sense of psychological security and safety (Alvarado & Ricard, 2013; Constantine & Sue, 2006; Rivas-Drake et al., 2014). Increased autonomy and sense of personal agency characterizes middle adolescence in particular (Allen, 2008; Crone & Dahl, 2012), such that it is at this stage that many youth take a more active role in creating the life they want for themselves. Thus, youth may increasingly self-select into settings and experiences that build the skills underlying the Five Cs (e.g., joining the workforce or an after-school program), contributing to their PYD.

For Mexican-origin youth living in the U.S., developing positive connections to their ethnic-racial background and taking pride in their cultural community demonstrates a unique competency for grounding their self-concept in Mexican culture, despite the possibility of being stereotyped within the broader American context (Neblett Jr. et al., 2012; Safa & Umaña-Taylor, 2021). Youth who recognize the value inherent in their cultural history and draw on it as a source of inner strength may experience additional layers of psychological safety (Wakefield & Hudley, 2007) providing them with further motivation to engage positively with others in the pursuit of self-discovery and actualization. By building positive connections between their sense of self, personal values, and goals and their family's Mexican heritage and cultural traditions, youth create space for furthering their personal development, and as such, the multicultural context serves as an additional avenue

supporting the universal need of self-exploration in a manner specific to Mexican-origin adolescents.

Similarly, the process of developing a personal sense of ethnic pride and connection to cultural values may additionally set the stage for PYD by factoring into Mexican-origin adolescents' decision-making. Given that healthy adolescent development requires a balancing act between increased autonomy and responsibility while maintaining connectedness (Allen, 2008), the choices and behaviors youth enact at this time are exceptionally important as they underlie trajectories of academic achievement, personal growth, and community involvement (Crone & Dahl, 2012; Dahl et al., 2018). Research exploring adolescent decision-making suggests that youth calibrate or align their behavior with their self-concept, personal attributions, beliefs, and values (Berzonsky, 1989). In choosing between peers to befriend, goals and hobbies to pursue, or different identities to embody, adolescents may seek guidance and gather relevant information from their cultural context (Berzonsky, 1989). For Mexican-origin youth, standards of appropriate behavior and interpersonal connections are, in part, framed through the cultural values of familismo and respeto (Constantine & Sue, 2006). By emphasizing the importance of knowing one's role and position within the family dynamic as well as reinforcing prosocial, responsible, and respectful interactions with others, familismo and respeto serve as markers of culturally acceptable behavior (Constantine & Sue, 2006; Stein et al., 2014). This value system is characterized by an other-oriented approach in which a sensitivity to the needs others are rewarded (Calderon-Tena, 2011; Knight et al., 2016). Given the bidirectional nature of relations between supportive family environments and PYD (Lerner et al., 2005), upholding an other-orientation may inspire an upward spiral of healthy decisions and psychosocial adjustment. Thus, global well-being may be optimized through a virtuous cycle characterized by positive family interactions, community engagement and school involvement increasing in parallel with adolescents' personal sense of socioemotional savviness and connection.

The present findings have important implications for programming efforts with Mexican-origin youth specifically, and Latinx youth broadly, as they suggest that positive identification with and connection to one's cultural history and values influence global well-being. Teachers, peer mentors, and other adults within the community have great capacity to model, scaffold, and foster the development of a healthy, positive, and strong connection to one's ethnic and racial community across formal education environments and informal youth development programs. The idea that adolescents' cultural orientation facilitates responsibility, prosociality, and general well-being is supported by theoretical work proposing that the community context acts as a "critical delivery system" for PYD in adolescents (Benson et al., 2006). This developmental systems-perspective proposes that the community context promotes healthy development by conveying a framework for belonging and personal empowerment, opportunities for self-exploration, additional social support, and clear boundaries and expectations for responsible behavior. Moreover, previous intervention work within a diverse sample of adolescents has demonstrated the effectiveness of ethnic-racial identity exploration programs in promoting higher self-esteem, academic grades, and identity cohesion, and lowering depressive symptoms (Umaña-Taylor et al., 2018). The present findings lend additional empirical support for the benefits of youth engagement with

their cultural community, and specifically emphasize ethnic pride and traditional Mexican family values as candidate factors engendering PYD in Mexican-origin adolescents. Since the mid-adolescent stage is characterized by increased autonomy and social responsibilities outside of the immediate family, as well as greater intrinsic motivation to discover the self (Allen, 2008; Crone & Dahl, 2012), PYD programs that youth engage with during this time may increase in impact to promote optimal trajectories of psychological health across the lifespan.

Limitations and future directions

The present study was not without limitations. Data were taken from two waves of the CFP, a study not specifically designed to test the Five Cs model of PYD. Our latent definitions of the PYD constructs were constrained to the data available, which was displayed in our measurement of the social domain of Competence. Specifically, lacking a collaborative conflict resolution scale, our measurement of social ability was restricted to popularity indices which negatively loaded onto Competence. Additionally, it should be noted that to prevent our latent structural model from producing a non-significant, but impossible estimate for the longitudinal residual covariance of our scholastic competence indicator, this residual auto-covariance was fixed at 0. This possibly contributed to the positive and negative valence of the manifest loadings for Competence. As such, our operationalization of the Five Cs may not be directly comparable with prior literature with regard to Competence. Despite this measurement constraint, we replicated the latent bifactor structure of global PYD and residual Cs, suggesting that future work to confirm the reproducibility of our findings would be warranted. Additionally, all data were from adolescent self-reports. Further investigations of these theoretical constructs using peer-, parent-, and teacher-reports and observational data would further strengthen the reliability of the Five Cs model of PYD.

It is important to note that the present sample entirely consisted of Mexican-origin youth coming from lower socioeconomic backgrounds in California. We cannot assume generalizability of the present findings given the significant heterogeneity of the Latinx community in the United States and abroad. The specific influences of familismo, respeto, and ethnic pride, shown to be strong predictors of PYD within our unique sample, may imbue different developmental effects in other Latinx communities. Additionally, replication in other diverse samples is essential. For example, examining the Five Cs model as it relates to culturally-relevant developmental assets in African-American and other minority youth samples are needed to further test the validity of this framework for clarifying the nature of well-being and thriving for all American children and adolescents.

It is important to note that the latent associations presented in Table 4 should be interpreted in the context of the Five Cs being orthogonal to global PYD except for the variance in these factors that is directly related to cultural orientation. This subtle violation of the bifactor model's orthogonality principle was unforeseen, yet perhaps demonstrates a general limitation of modelling PYD within a bifactor framework. As noted by (Geldhof et al., 2014), investigating important developmental predictors of general PYD and mapping their relative contributions onto various dimensions of PYD as it is modeled with a bifactor structure represents the next wave of PYD studies. Despite its technical drawbacks, the

present model represents a step forward in our understanding of positive development in Mexican-origin youth by highlighting important cultural influences on PYD. As such, future studies designed to clarify context-driven PYD processes in diverse samples of youth may utilize this work as a reference point in the contemporary study of ethnic minority youth development.

Although our findings suggest that adolescents' ethnic pride, familismo, and respeto promote PYD and are uniquely associated with its various dimensions, further research is needed to clarify the processes as well as potential underlying mechanisms. Past work has linked dual-axis cultural adaptation and biculturalism with optimal developmental outcomes (Gonzales et al., 2009; Safa & Umaña-Taylor, 2021), pointing to individuals' proficiency and comfort within both minority and majority cultural contexts as candidate developmental assets for bicultural youth. Thus, investigations incorporating repeated-measures of bicultural adaptation, identity, and competence across adolescence stand to enrich the field's understanding of individual- and group-level variation in trajectories of psychosocial adjustment (Safa & Umaña-Taylor, 2021). In other words, future studies seeking to confirm the developmental benefits of cultural factors should consider that these youth experience two cultural worlds as they develop, and understanding their balancing of both worlds will deepen the field's understanding of PYD processes in diverse samples.

Furthermore, as PYD research evolves with greater attention to individual variability and specificity in PYD constructs in diverse samples (Johnson & Ettekal, 2022; Lerner & Bornstein, 2021), efforts to extend the Five Cs model itself, beyond replication in novel populations, may gain traction. While the present study was designed to test the extent to which positive aspects of our sample's cultural orientation promoted global PYD, future work could probe whether sample-specific developmental assets can directly operationalize PYD concepts. For example, as a positive identity affirmation, ethnic pride may illustrate Confidence, whereas traditional cultural values such as familismo and respeto may exemplify Character in specific samples of youth. Thus, research incorporating sample-specific indicators within the Five Cs analytic structure itself stands to expand the field's operationalization of the Cs by providing a more nuanced understanding of what thriving actually looks like for youth in diverse communities.

Conclusions

The present study provided robust evidence for the Five Cs model of PYD analytically and in translation to an underrepresented sample. By clarifying the developmental nature of PYD in a Mexican-origin sample across middle adolescence, this study advances both strengths-based research and deepens the empirical basis to inform the construction and usage of developmentally-sensitive PYD programs. Investigating the cultural context in which the Five Cs develop and identifying culturally-specific developmental assets that benefit inner strengths deepens the field's understanding of PYD within diverse contexts. These findings highlight ethnic pride, familismo, and respeto as promotive factors that PYD research and programs can leverage to understand and enhance well-being in Latinx youth in general and Mexican-origin youth, in particular.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

References

- Acevedo-Polakovich ID, Cousineau JR, Quirk KM, Gerhart JI, Bell KM, & Adomako MS (2014). Toward an Asset Orientation in the Study of U.S. Latina/o Youth: Biculturalism, Ethnic Identity, and Positive Youth Development Ψ . *The Counseling Psychologist*, 42(2), 201–229. 10.1177/0011000013477904
- Ahn T, De Leon H, Galdámez M, Oaxaca A, Perez R, Ramos-Vega D, & Renteria Salome. (2022, June 28). 15 Facts About Latino Well-Being in CA. Latino Policy & Politics Institute. <https://latino.ucla.edu/research/15-facts-latinos-california/>
- Allen JP (2008). The attachment system in adolescence. In *Handbook of attachment: Theory, research, and clinical applications*, 2nd ed (pp. 419–435). The Guilford Press.
- Alvarado M, & Ricard RJ (2013). Developmental Assets and Ethnic Identity as Predictors of Thriving in Hispanic Adolescents. *Hispanic Journal of Behavioral Sciences*, 35(4), 510–523. 10.1177/0739986313499006
- Armsden GC, & Greenberg MT (1987). The inventory of parent and peer attachment: Individual differences and their relationship to psychological well-being in adolescence. *Journal of Youth and Adolescence*, 16(5), 427–454. [PubMed: 24277469]
- Arnett JJ (1997). Young People's Conceptions of the Transition to Adulthood. *Youth & Society*, 29(1), 3–23. 10.1177/0044118X97029001001
- Azmitia M (2021). Latinx Adolescents' Assets, Risks, and Developmental Pathways: A Decade in Review and Looking Ahead. *Journal of Research on Adolescence*, 31(4), 989–1005. 10.1111/jora.12686 [PubMed: 34820953]
- Bader M, Jobst LJ, & Moshagen M (2022). Sample Size Requirements for Bifactor Models. *Structural Equation Modeling: A Multidisciplinary Journal*, 29(5), 772–783. 10.1080/10705511.2021.2019587
- Benson PL, Scales PC, Hamilton SF, & Sesma A Jr. (2006). Positive youth development: Theory, research, and applications. In *Handbook of child psychology: Theoretical models of human development* (pp. 894–941). John Wiley & Sons, Inc.
- Bentler PM (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107(2), 238–246. 10.1037/0033-2909.107.2.238 [PubMed: 2320703]
- Berzonsky MD (1989). Identity Style: Conceptualization and Measurement. *Journal of Adolescent Research*, 4(3), 268–282. 10.1177/074355488943002
- Bowers EP, Li Y, Kiely MK, Brittian A, Lerner JV, & Lerner RM (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. 10.1007/s10964-010-9530-9 [PubMed: 20397040]
- Browne MW, & Cudeck R (1992). Alternative Ways of Assessing Model Fit. *Sociological Methods & Research*, 21(2), 230–258. 10.1177/0049124192021002005
- Cabrera NJ, & The SRCD Ethnic Racial Issues Committee. (2013). Positive Development of Minority Children and commentaries. *Social Policy Report*, 27(2), 1–30. 10.1002/j.2379-3988.2013.tb00075.x
- Calderon-Tena. (2011). The socialization of prosocial behavioral tendencies among Mexican American adolescents: The role of familism values. <https://psycnet.apa.org/doiLanding?doi=10.1037%2Fa0021825>
- Calderón-Tena CO, Knight GP, & Carlo G (2011). The socialization of prosocial behavioral tendencies among Mexican American adolescents: The role of familism values. *Cultural Diversity and Ethnic Minority Psychology*, 17(1), 98–106. 10.1037/a0021825 [PubMed: 21341902]
- Calzada EJ, Fernandez Y, & Cortes DE (2010). Incorporating the cultural value of respeto into a framework of Latino parenting. *Cultural Diversity and Ethnic Minority Psychology*, 16(1), 77–86. 10.1037/a0016071 [PubMed: 20099967]

- Cheung GW, & Rensvold RB (2002). Evaluating Goodness-of-Fit Indexes for Testing Measurement Invariance. *Structural Equation Modeling: A Multidisciplinary Journal*, 9(2), 233–255. 10.1207/S15328007SEM0902_5
- Coll CG, Crnic K, Lamberty G, Wasik BH, Jenkins R, García HV, & McAdoo HP (1996). An Integrative Model for the Study of Developmental Competencies in Minority Children. *Child Development*, 67(5), 1891–1914. 10.1111/j.1467-8624.1996.tb01834.x [PubMed: 9022222]
- Constantine MG, & Blackmon SM (2002). Black Adolescents' Racial Socialization Experiences: Their Relations to Home, School, and Peer Self-Esteem. *Journal of Black Studies*, 32(3), 322–335. 10.1177/002193470203200303
- Constantine MG, & Sue DW (2006). Factors Contributing to Optimal Human Functioning in People of Color in the United States. *The Counseling Psychologist*, 34(2), 228–244. 10.1177/0011000005281318
- Crone EA, & Dahl RE (2012). Understanding adolescence as a period of social–affective engagement and goal flexibility. *Nature Reviews Neuroscience*, 13(9), 636–650. 10.1038/nrn3313 [PubMed: 22903221]
- Dahl RE, Allen NB, Wilbrecht L, & Suleiman AB (2018). Importance of investing in adolescence from a developmental science perspective. *Nature*, 554(7693), 441–450. 10.1038/nature25770 [PubMed: 29469094]
- Department of Finance. (2019). State Population Projections. <https://dof.ca.gov/forecasting/demographics/projections/>
- Geldhof GJ, Bowers EP, Mueller MK, Napolitano CM, Callina KS, & Lerner RM (2014). Longitudinal Analysis of a Very Short Measure of Positive Youth Development. *Journal of Youth and Adolescence*, 43(6), 933–949. 10.1007/s10964-014-0093-z [PubMed: 24557779]
- Gomez-Baya D, Reis M, & Matos MG de. (2019). Positive youth development, thriving and social engagement: An analysis of gender differences in Spanish youth. *Scandinavian Journal of Psychology*, 60(6), 559–568. 10.1111/sjop.12577 [PubMed: 31535399]
- Gonzales NA, Fabrett FC, & Knight GP (2009). Acculturation, enculturation, and the psychological adaptation of Latino youth. In *Handbook of U.S. Latino psychology: Developmental and community-based perspectives* (pp. 115–134). Sage Publications, Inc.
- Gonzales NA, Germán M, Kim SY, George P, Fabrett FC, Millsap R, & Dumka LE (2008). Mexican American Adolescents' Cultural Orientation, Externalizing Behavior and Academic Engagement: The Role of Traditional Cultural Values. *American Journal of Community Psychology*, 41(1–2), 151–164. 10.1007/s10464-007-9152-x [PubMed: 18085435]
- Greig R (2003). Ethnic identity development: Implications for mental health in African-American and Hispanic adolescents. *Issues in Mental Health Nursing*, 24(3), 317–331. 10.1080/01612840305278 [PubMed: 12623688]
- Heck KE, & Subramaniam A (2009). Youth development frameworks. [Monograph]. Monograph, 29.
- Holsen I, Geldhof J, Larsen T, & Aardal E (2017). The five Cs of positive youth development in Norway: Assessment and associations with positive and negative outcomes. *International Journal of Behavioral Development*, 41(5), 559–569. 10.1177/0165025416645668
- John OP, Naumann LP, & Soto CJ (2008). Paradigm Shift to the Integrative Big Five Trait Taxonomy: History, measurement, and conceptual issues. In *Handbook of Personality: Theory and Research* (3rd ed., pp. 114–158). The Guildord Press.
- Johnson SK, & Ettekal AV (2022). The Five Cs of Positive Youth Development: Configurations of Thriving in Four U.S. Adolescent Samples. *Journal of Research on Adolescence*, n/a(n/a). 10.1111/jora.12806
- Johnson LE, Robins RW, Guyer AE, & Hastings PD Latinx PYD via Lerner's Five Cs: The Role of Culture. osf.io/krj7x. 2022 Feb 17.
- Knight GP, Carlo G, Mahrer NE, & Davis AN (2016). The Socialization of Culturally Related Values and Prosocial Tendencies Among Mexican-American Adolescents. *Child Development*, 87(6), 1758–1771. 10.1111/cdev.12634 [PubMed: 28262940]
- Knight GP, Gonzales NA, Saenz DS, Bonds DD, Germán M, Deardorff J, Roosav MW, & Updegraff KA (2010). The Mexican American Cultural Values Scale for Adolescents and Adults. *The Journal of Early Adolescence*, 30(3), 444–481. 10.1177/0272431609338178 [PubMed: 20644653]

- Kuperminc GP, Wilkins NJ, Roche C, & Alvarez-Jimenez A (2009). Risk, resilience, and positive development among Latino youth. In *Handbook of U.S. Latino psychology: Developmental and community-based perspectives* (pp. 213–233). Sage Publications, Inc.
- Lawson KM, Atherton OE, Ferrer E, & Robins RW (2020). The Development of Educational Aspirations and Expectations From Adolescence to Young Adulthood: A Longitudinal Study of Mexican-Origin Youth. *Social Psychological and Personality Science*, 11(7), 965–974. 10.1177/1948550619893961
- Lerner RM, & Bornstein MH (2021). Contributions of the specificity principle to theory, research, and application in the study of human development: A view of the issues. *Journal of Applied Developmental Psychology*, 75, 101294. 10.1016/j.appdev.2021.101294
- Lerner RM, Lerner JV, Almerigi JB, Theokas C, Phelps E, Gestsdottir S, Naudeau S, Jelicic H, Alberts A, Ma L, Smith LM, Bobek DL, Richman-Raphael D, Simpson I, Christiansen ED, & von Eye A (2005). Positive Youth Development, Participation in Community Youth Development Programs, and Community Contributions of Fifth-Grade Adolescents: Findings From the First Wave Of the 4-H Study of Positive Youth Development. *The Journal of Early Adolescence*, 25(1), 17–71. 10.1177/0272431604272461
- Lerner RM, Wang J, Hershberg RM, Buckingham MH, Harris EM, Tirrell JM, Bowers EP, & Lerner JV (2017). Positive Youth Development Among Minority Youth: A Relational Developmental Systems Model. In Cabrera NJ & Leyendecker B (Eds.), *Handbook on Positive Development of Minority Children and Youth* (pp. 5–17). Springer International Publishing. 10.1007/978-3-319-43645-6_1
- Little TD (2013). Longitudinal Structural Equation Modeling. In *Longitudinal Structural Equation Modeling*. 10.4324/9781315871318
- Lopez MH, Krogstad JM, & Flores A (2018). Key facts about young Latinos, one of the nation's fastest-growing populations. Pew Research Center. <https://www.pewresearch.org/fact-tank/2018/09/13/key-facts-about-young-latinos/>
- Marín G, & Marín BV (1991). *Research with Hispanic populations* (pp. ix, 130). Sage Publications, Inc.
- Marsh H, Ellis L, Parada R, Richards G, & Heubeck B (2005). A Short Version of the Self Description Questionnaire II: Operationalizing Criteria for Short-Form Evaluation With New Applications of Confirmatory Factor Analyses. *Psychological Assessment*, 17, 81–102. 10.1037/1040-3590.17.1.81 [PubMed: 15769230]
- Neblett EW Jr., Rivas-Drake D, & Umaña-Taylor AJ (2012). The Promise of Racial and Ethnic Protective Factors in Promoting Ethnic Minority Youth Development. *Child Development Perspectives*, 6(3), 295–303. 10.1111/j.1750-8606.2012.00239.x
- Perez W, & Padilla AM (2000). Cultural Orientation across Three Generations of Hispanic Adolescents. *Hispanic Journal of Behavioral Sciences*, 22(3), 390–398. 10.1177/0739986300223008
- Phinney J, & Ong A (2007). Conceptualization and measurement of ethnic identity: Current status and future directions. 10.1037/0022-0167.54.3.271
- Phinney JS (1992). The Multigroup Ethnic Identity Measure: A New Scale for Use with Diverse Groups. *Journal of Adolescent Research*, 7(2), 156–176. 10.1177/074355489272003
- Rew L, Arheart KL, Johnson K, & Spoden M (2015). Changes in Ethnic Identity and Competence in Middle Adolescents. *Journal of Transcultural Nursing*, 26(3), 227–233. 10.1177/1043659614524250 [PubMed: 24782146]
- Rivas-Drake D, Seaton EK, Markstrom C, Quintana S, Syed M, Lee RM, Schwartz SJ, Umaña-Taylor AJ, French S, Yip T, & Ethnic and Racial Identity in the 21st Century Study Group. (2014). Ethnic and Racial Identity in Adolescence: Implications for Psychosocial, Academic, and Health Outcomes. *Child Development*, 85(1), 40–57. 10.1111/cdev.12200 [PubMed: 24490891]
- Rosseel Y (2012). lavaan: An R package for structural equation modeling and more Version 0.5–12 (BETA). 37.
- Safa MD, & Umaña-Taylor AJ (2021). Biculturalism and adjustment among U.S. Latinos: A review of four decades of empirical findings. In Lockman JJ(Ed.), *Advances in Child Development and Behavior* (Vol. 61, pp. 73–127). JAI. 10.1016/bs.acdb.2021.05.002 [PubMed: 34266572]

- Segal EA, Gerdes KE, Mullins J, Wagaman MA, & Androff D (2011). Social Empathy Attitudes: Do Latino Students Have More? *Journal of Human Behavior in the Social Environment*, 21(4), 438–454. 10.1080/10911359.2011.566445
- Spencer MB, Harpalani V, & Dell' Angelo T (2002). Structural racism and community health: A theory-driven model for identity intervention. In Allen WR, Beale Spencer M, & O'Connor C (Eds.), *New perspectives on African American education: Race, achievement, and social inequality* (Vol. 2, pp. 259–282). Emerald Group Publishing Limited. 10.1016/S1479-358X(02)80019-5
- Spencer MB, & Spencer TR (2014). Invited Commentary: Exploring the Promises, Intricacies, and Challenges to Positive Youth Development. *Journal of Youth and Adolescence*, 43(6), 1027–1035. 10.1007/s10964-014-0125-8 [PubMed: 24723050]
- Stein GL, Cupito AM, Mendez JL, Prandoni J, Huq N, & Westerberg D (2014). Familism Through a Developmental Lens. 2(4), 224–250.
- UCLA Center for the Developing Adolescent. (2022). The Core Science of Adolescent Development. <https://developingadolescent.semel.ucla.edu/developingadolescent.semel.ucla.edu/core-science-of-adolescence>
- Umaña-Taylor AJ, & Fine MA (2004). Examining Ethnic Identity among Mexican-Origin Adolescents Living in the United States. *Hispanic Journal of Behavioral Sciences*, 26(1), 36–59. 10.1177/0739986303262143
- Umaña-Taylor AJ, Kornienko O, Douglass Bayless S, & Updegraff KA (2018). A Universal Intervention Program Increases Ethnic-Racial Identity Exploration and Resolution to Predict Adolescent Psychosocial Functioning One Year Later. *Journal of Youth and Adolescence*, 47(1), 1–15. 10.1007/s10964-017-0766-5 [PubMed: 29030792]
- US Census Bureau. (2021, August). 2020 Census Illuminates Racial and Ethnic Composition of the Country. *Census.Gov*. <https://www.census.gov/library/stories/2021/08/improved-race-ethnicity-measures-reveal-united-states-population-much-more-multiracial.html>
- Van der Graaff J, Carlo G, Crocetti E, Koot HM, & Branje S (2018). Prosocial Behavior in Adolescence: Gender Differences in Development and Links with Empathy. *Journal of Youth and Adolescence*, 47(5), 1086–1099. 10.1007/s10964-017-0786-1 [PubMed: 29185207]
- Villarreal R, Blozis SA, & Widaman KF (2005). Factorial Invariance of a Pan-Hispanic Familism Scale. *Hispanic Journal of Behavioral Sciences*, 27(4), 409–425. 10.1177/0739986305281125
- Wakefield WD, & Hudley C (2007). Ethnic and Racial Identity and Adolescent Well-Being. *Theory Into Practice*, 46(2), 147–154. 10.1080/00405840701233099
- Wantchekon KA, & Umaña-Taylor AJ (2021). Relating Profiles of Ethnic–Racial Identity Process and Content to the Academic and Psychological Adjustment of Black and Latinx Adolescents. *Journal of Youth and Adolescence*, 50(7), 1333–1352. 10.1007/s10964-021-01451-x [PubMed: 34085185]
- Weinberger DA, & Schwartz GE (1990). Distress and Restraint as Superordinate Dimensions of Self-Reported Adjustment: A Typological Perspective. *Journal of Personality*, 58(2), 381–417. 10.1111/j.1467-6494.1990.tb00235.x [PubMed: 2213473]
- Wiium N, Wreder LF, Chen B-B, & Dimitrova R (2019). Gender and Positive Youth Development. *Zeitschrift Für Psychologie*, 227(2), 134–138. 10.1027/2151-2604/a000365
- Yu D, Smith EP, & Oshri A (2019). Exploring racial–ethnic pride and perceived barriers in positive youth development: A latent profile analysis. *Applied Developmental Science*, 1–19. 10.1080/10888691.2019.1640607
- Zimet GD, Dahlem NW, Zimet SG, & Farley GK (1988). The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment*, 52(1), 30–41. 10.1207/s15327752jpa5201_2

Public Significance Statement:

This study advances the idea that conducting strengths-based research through the lens of cultural context may deepen scientific understanding of positive development in adolescence, particularly for samples of minoritized youth. Moreover, it provides evidence that increasing ethnic pride and connection to cultural values may significantly improve psychological well-being for Mexican-origin adolescents.

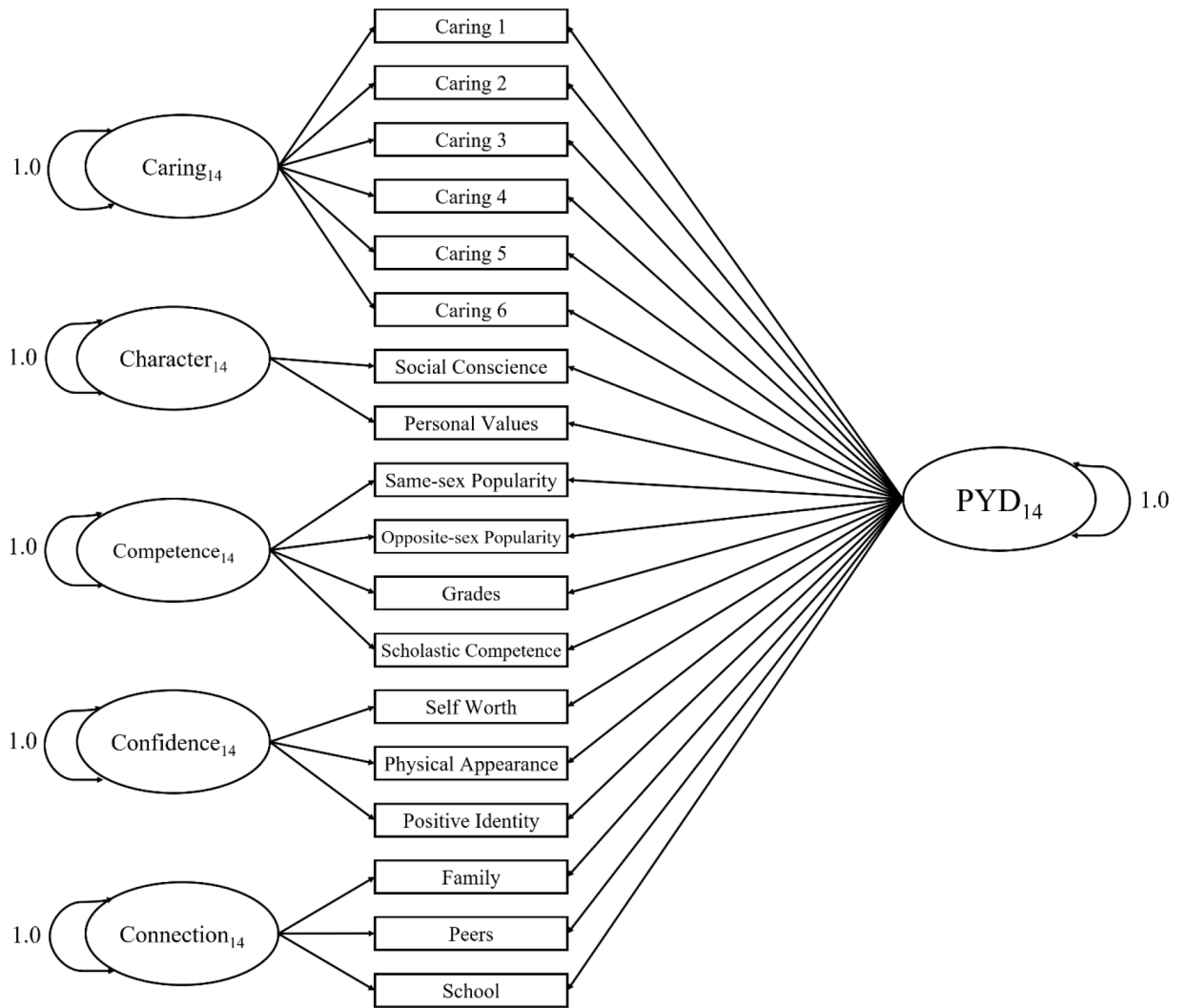


Figure 1. Bifactor model of Positive Youth Development (PYD) (Identical structures for ages 14 and 16).

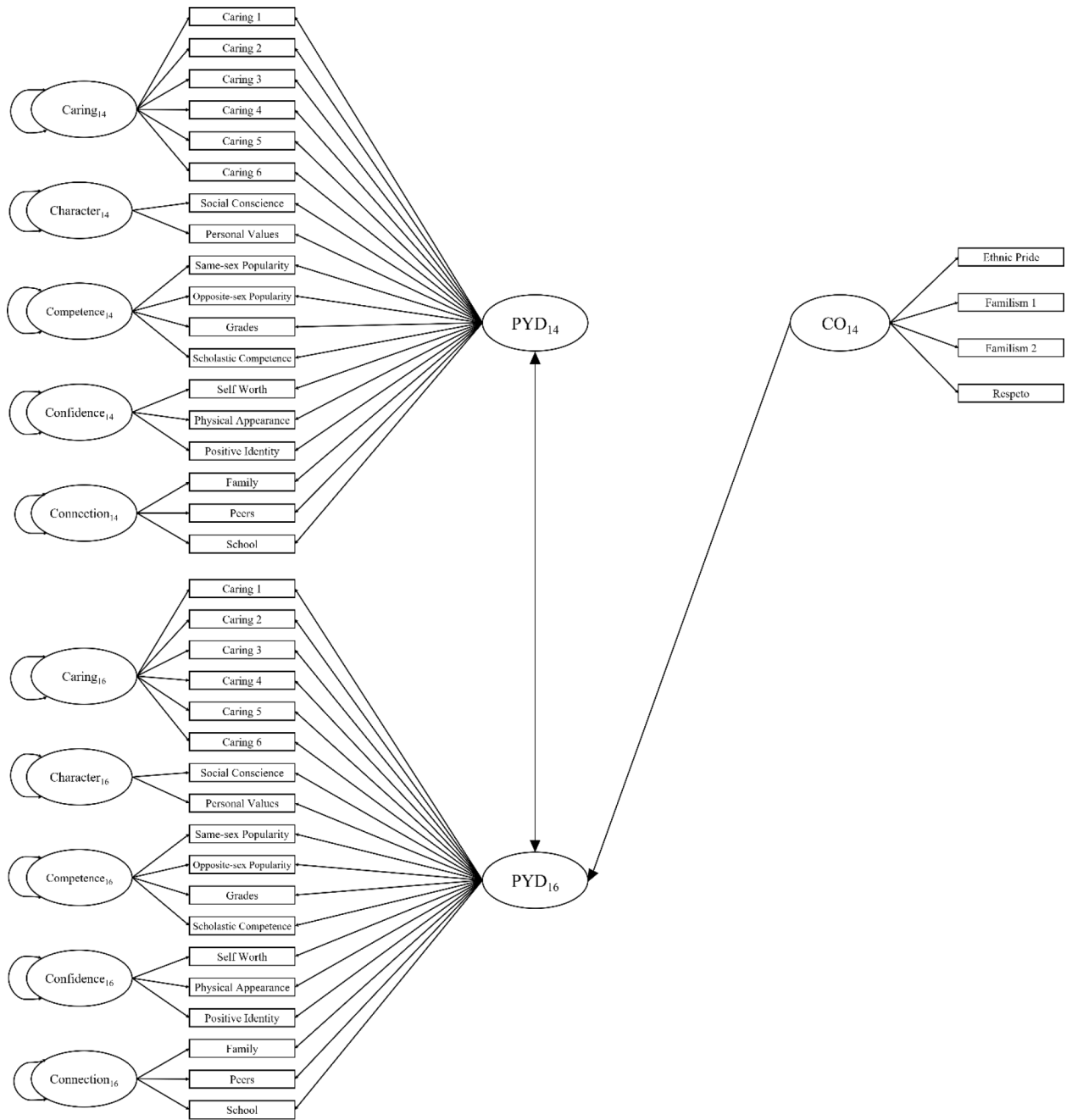


Figure 2. Structural equation model depicting associations between the longitudinal bifactor model of Positive Youth Development (PYD) and Cultural Orientation (CO). Participant ages are represented in subscripts.

Table 1.

The Five Cs as theoretically defined by Lerner and colleagues (2005) and empirically operationalized by the Positive Youth Development-Short Form (Geldhof et al., 2014).

Five Cs	Theoretical Definition	Empirical Operationalization
Caring	A sense of sympathy and empathy for others.	Example item: "When I see someone being picked on, I feel kind of sorry for them." Participants respond on a 1 = <i>not like you</i> to 3 = <i>really like you</i> scale.
Character	Respect for societal and cultural rules, possession of standards for correct behaviors, a sense of right and wrong (morality), and integrity.	Example item: "Helping to make the world a better place to live in." Participants respond on a 1 = <i>not important</i> to 5 = <i>extremely important</i> scale.
Competence	Positive view of one's actions in domain specific areas including social, academic, cognitive, and vocational. Social competence pertains to interpersonal skills (e.g., conflict resolution). Cognitive competence pertains to cognitive abilities (e.g., decision making). School grades, attendance, and test scores are part of academic competence. Vocational competence involves work habits and career choice explorations.	Example item: "Some teenagers are popular with others their age, BUT other teenagers are not very popular." Participants select which statement describes them more and then rate whether the statement is <i>really true</i> or <i>sort of true</i> .
Confidence	An internal sense of overall positive self-worth and self-efficacy; one's global self-regard as opposed to domain specific beliefs.	Example item: "Some kids <i>like</i> the kind of <i>person</i> they are BUT other kids often wish they were someone else." Participants select which statement describes them more and then rate whether the statement is really true or sort of true.
Connection	Positive bonds with people and institutions that are reflected in bidirectional exchanges between the individual and peers, family, school, and community in which both parties contribute to the relationship.	Example item: "In my family, I feel useful and important." Participants respond on a 1 = <i>strongly disagree</i> to 5 = <i>strongly agree</i> scale.

Table 2. Standardized factor loadings from the scalar invariance bifactor model of Positive Youth Development (PYD).

	Age 14			Age 16		
	Target C	p	PYD	Target C	p	PYD
Caring						
Caring 1	0.337	0.000	0.275	0.399	0.000	0.275
Caring 2	0.437	0.000	0.358	0.534	0.000	0.368
Caring 3	0.535	0.000	0.375	0.609	0.000	0.360
Caring 4	0.678	0.000	0.281	0.725	0.000	0.253
Caring 5	0.703	0.000	0.351	0.757	0.000	0.318
Caring 6	0.672	0.000	0.348	0.718	0.000	0.313
Character						
Social Conscience	0.636	0.000	0.409	0.671	0.000	0.415
Personal Values	0.437	0.000	0.442	0.441	0.000	0.430
Competence						
Same-Sex Popularity	-0.431	0.000	0.499	0.000	-0.360	0.000
Opposite-Sex Popularity	-0.465	0.000	0.355	0.000	-0.392	0.000
Grades	0.375	0.000	0.546	0.000	0.314	0.000
Scholastic Competence	0.274	0.015	0.871	0.000	0.217	0.015
Confidence						
Self-Worth	0.407	0.000	0.772	0.000	0.450	0.000
Physical Appearance	0.394	0.000	0.398	0.000	0.450	0.000
Positive Identity	0.534	0.000	0.619	0.000	0.577	0.000
Connection						
Family	0.694	0.000	0.454	0.000	0.656	0.000
Peers	0.525	0.000	0.391	0.000	0.518	0.000
School	0.442	0.000	0.379	0.000	0.453	0.000

Note. "Target C" refers to the residual C for a specific manifest indicator (i.e., Target C for Self-Worth refers to Confidence).

Table 3.

Latent means (M) and standard errors (SE) of all Positive Youth Development (PYD) constructs from the scalar invariance model.

Age	14	16
<i>Latent means</i>		
Caring	0.000	-0.064
Character	0.000	0.070
Competence	0.000	0.004
Confidence	0.000	0.073
Connection	0.000	-0.269***
PYD	0.000	-0.142***
<i>Latent variances</i>		
Caring	1.000	1.275***
Character	1.000	0.972***
Competence	1.000	0.602***
Confidence	1.000	1.220***
Connection	1.000	0.948***
PYD	1.000	0.904***

Notes:

p<.001.

Target correlations among Positive Youth Development (PYD), residual Cs, and cultural orientation and predictive relations between cultural orientation and PYD.

Table 4.

Concept (Age)	Target Correlations												
	1	2	3	4	5	6	7	8	9	10	11	12	
1 Cultural Orientation (14)	-												
2 Caring (14)	0.53***	-											
3 Character (14)	0.65***	0.70***	-										
4 Competence (14)	-0.19	-0.12	-0.28 ^t	-									
5 Confidence (14)	0.48***	0.12	0.47***	-0.46*	-								
6 Connection (14)	0.81***	0.34***	0.54***	-0.38***	0.41**	-							
7 PYD (14)	-	NA	NA	NA	NA	NA	-						
8 Caring (16)	0.31***	0.50***	0.44***	0.07	0.06	0.19**	-	-					
9 Character (16)	0.37***	0.42***	0.64***	-0.01	0.08	0.18 ^t	-	0.64***	-				
10 Competence (16)	-0.36***	-0.29***	-0.46***	0.59***	-0.45***	-0.33***	-	-0.09	-0.40*	-			
11 Confidence (16)	0.17	0.06	0.21	-0.20 ^t	0.48***	0.13	-	0.11	0.21	-0.38 ^t	-		
12 Connection (16)	0.60***	0.28**	0.43***	-0.25**	0.22	0.63	-	0.29***	0.43***	-0.40*	0.38***	-	
13 PYD (16)	-	-	-	-	-	-	0.55***	NA	NA	NA	NA	NA	NA

	Target Regressions							
	PYD (14)		PYD (16)					
	B	SE	P	95% CI	B	SE	P	95% CI
Cultural Orientation (14)	0.526	0.096	0.000	0.337, 0.714	0.436	0.130	0.001	0.182, 0.690

Notes:
^t p<.1,
 * p<.05,
 ** p<.01,

p<.001; NA = orthogonal parameter.

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript