Conceptualization and Measurement of Adolescent Prosocial Behavior: A Two-Study Mixed Methods Investigation

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CONCEPTUALIZATION AND MEASUREMENT OF ADOLESCENT PROSOCIAL BEHAVIOR: A TWO-STUDY MIXED METHODS INVESTIGATION

A Dissertation Presented by

SHEREEN EL MALLAH

Submitted to the Graduate School of the University of Massachusetts Amherst in partial fulfillment of the requirements for the degree of DOCTOR OF PHILOSOPHY

September 2018

Developmental Psychology
CONCEPTUALIZATION AND MEASUREMENT OF ADOLESCENT PROSOCIAL BEHAVIOR: A TWO-STUDY MIXED METHODS INVESTIGATION

A Dissertation Presented
By
SHEREEN EL MALLAH

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DEDICATION

I dedicate this dissertation to the students in Holyoke and Springfield, Massachusetts with whom I have had the pleasure of working with for the last few years. Spending my days in school with you served as an endless source of inspiration and kept my curiosity alive. Thank you for every lesson you taught me in compassion, generosity, and perseverance.
ACKNOWLEDGEMENTS

Reflecting back on the scholarly adventure of graduate school, there are many individuals to whom I am deeply grateful to including my adviser, my dissertation committee, the faculty and colleagues I have had the privilege to work with, and my kindhearted family and friends (both near and far). Thank you! Gracias! Merci! شكرا

To Dr. Kirby Deater-Deckard,

I have benefited from your remarkable mentorship and unwavering support in countless ways, of which I only have room to highlight a few (otherwise I risk writing a second dissertation). Taking to heart the phrase, “my door is always open,” you have consistently welcomed (or “zoomed”) me into your office and served as an astute sounding board for each challenge I encountered on my graduate school journey. You have been instrumental in shaping me into a researcher, constantly challenging me to build on my conceptual thinking and improve the clarity of my arguments.

As the fearless leader of the Individual Differences in Development lab, you have continuously provided individual mentoring that hones in on the short- and long-term personal and professional goals unique to each member, while also embracing a shared leadership model that capitalizes on the diversity of knowledge, strengths and experiences within our lab family. This has ultimately allowed for a co-constructive and mutual learning environment that has been an absolute privilege to be a part of. I leave graduate school with a treasure chest full of fond memories that capture the natural joy and perpetual laughter that always transpired when IDDLabbers were brought together.
I often find myself wanting to share with others the great fortune it is to have you as an adviser, but I am almost always interrupted...everyone who knows you (or who has had the privilege of working with you in any capacity) is keenly aware of the remarkable person you are and thus is just as eager to share how grateful they are to have you in their lives as I am.

To Dr. David Arnold,

Transitioning to UMass Amherst while in the midst of pursuing a doctoral degree brought on a lot of unknowns. But I very much credit you for how smooth that transition ultimately turned out to be. I am thankful for the warm and kind welcome you extended not only to me, but to our lab as a whole. When getting a rundown of “who’s who” among the faculty, my labmates and I were told “you won’t meet anyone nicer than David Arnold…he just oozes kindness.” And over the last three years, I have come to recognize just how true that description is.

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I perhaps have already shared with you how my appreciation and passion for mixed methods began with your summer course. But I do not think I told you how much I learned from witnessing you teach. Taking an online course for the first time had me nervous as I had previously relied heavily on the face-to-face interaction within classroom settings to build relationships. But you so effortlessly fostered a strong sense of community among the students and ensured each one of us was “seen,” even if only through a monitor screen. So many of the lessons I took away from your course resurfaced when I began teaching my first online class six months later. Thank you for changing the way I approached my own students and, of course, thank you for the valuable insight you continually provided regarding this dissertation project. I
walked away from all of our meetings feeling a much stronger sense of purpose and clarity regarding the work at hand.

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To Dr. Sara Whitcomb,

There may not be a “Hollywood star” donning your name, but there is no doubt in my mind that you have been a guiding light in my academic journey. Before I even stepped foot on the UMass campus, you took a chance on me, agreeing to serve on my comprehensive exam committee. And since then, I guess I just haven’t allowed you to cut ties? Amidst all the chaos and uncertainty that accompanies our adventurous work in schools, you have provided endless support and steered me clear of any and all “thinking traps.” It is with your willingness to mentor me that I was able to bridge the worlds of psychology and education in my own research. For each time a 30 minute meeting turned into a 1.5 hour conversation, for all the last minute emails and rushed deadlines, and for the numerous pep talks that were delivered in moments of panic…thank you.
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Mengjiao- having you as both a friend and officemate not only pushed me to work harder during times when motivation was lacking, but also allowed me to witness the infinite amount of
help, patience and kind-heartedness you show to all of us in the program when called upon to troubleshoot issues encountered in our research.

Mamatha- from our inside jokes and shared appreciation of bicultural trials and tribulations, we have ridden the ups and downs of graduate school life together and will undoubtedly continue to do so in our future endeavors.

Sarah- we have continued to laugh about the irony of my original role as your “big sister.” The humor is actually rooted in the fact that there is very little guidance that can be offered to someone who displays remarkable grace when facing challenges or stress, who is intentional in every interaction to promote inclusion, acceptance and understanding, and who never hesitates to shoulder the burden of others or lend an ear when life gets messy.

Charisse- with your infectious energy and steadfast support, our joint writing sessions reaped the many benefits of “parallel play.” Your presence genuinely lights up a room, perhaps because of the instantaneous (and long-lasting) connection immediately felt by everyone around you.

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To my friends across labs, across programs, and “across the pond” at Furcolo,

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but enjoyable. Katya Aniskovich’s zest for life and unflinching positive outlook reminded me of the many reasons to smile each day and guaranteed there was never a dull moment as we embarked upon our bold adventures. Conversations with Krystal Cashen had a knack for bringing forth a sense of calm amidst the madness, for broadening my perspective, and for reminding me the good fight is worth fighting for.

It’s going to be hard to imagine life without extended doorway chats and late-night conversations in a vacant building. From game nights to potlucks, from seminars to writing sessions, from deadlines to milestones, I have leaned heavily on each of you and my energy has consistently been fueled by your support, kindness and generosity. Although I will truly miss the day-to-day encounters, I have no doubt our paths will cross again in the near future.

And finally, to my family- mom, dad, and Gaafar- who have lived and breathed this journey with me. You each have loved me with such abundance, it is only fitting that I search for ways to pour it back into the world.
ABSTRACT

CONCEPTUALIZATION AND MEASUREMENT OF ADOLESCENT PROSOCIAL BEHAVIOR: A TWO-STUDY MIXED METHODS INVESTIGATION

SEPTEMBER 2018

SHEREEN EL MALLAH, B.A., JOHNS HOPKINS UNIVERSITY
Ph.D., UNIVERSITY OF MASSACHUSETTS AMHERST

Directed by: Kirby Deater-Deckard

Prosocial behavior is a multifaceted construct that may be expressed and received in a myriad of ways, thereby posing several challenges in measurement. Undoubtedly, significant advancements in the measurement of prosocial behavior have been made since the construct first found its way onto the research stage; however, a few fundamental problems persist with regard to: 1) the absence of a universally employed definition, 2) substantial variation in operationalization and measurement of the construct, and 3) inconsistent reports regarding the nature of prosocial development during the transition between adolescence and young adulthood. These issues are further compounded under conditions of adversity or in consideration of cultural influence. Researchers often face challenges conceptualizing and developing standardized metrics of prosocial behavior that are representative of adolescent experiences across cultures. The overarching aim of this multiphase mixed methods investigation was to place the construct under scrutiny, examining both measurement and conceptual equivalence across diverse youth.

Keywords: prosocial behavior, adolescence, mixed methods, well-being, diverse youth
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<td>EPOCH</td>
<td>Engagement, Perseverance, Optimism, Connectedness, Happiness</td>
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<td>MMR</td>
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<td>MGCFA</td>
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<td>PAC</td>
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<td>RMSEA</td>
<td>Root Mean Square Error of Approximation</td>
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CHAPTER I

ADOLESCENT PROSOCIAL BEHAVIOR: THEN AND NOW

The scientific study of prosocial behavior has undergone several transformations since first making its way onto the research stage in the early 1970s (Hay, 1994; Padilla-Walker & Carlo, 2014). Interest in the topic has ebbed and flowed over the years, spanning across a range of disciplines, including anthropology, economics, education, psychology and sociology, which collectively have produced a body of broad and compelling work (Froming, Nasby, & McManus, 1998; Gurven & Winking, 2008; Solomon, Watson, Delucchi, Schaps, & Battistich, 1988). Now, as it approaches its golden anniversary, a renewed interest in the study of prosocial behavior has emerged, coinciding with increased interest in positive psychology and the ongoing shift away from deficit-based perspectives to frameworks highlighting social emotional strengths (Lerner, Almerigi, Theokas & Lerner, 2005; Sanders, Munford, Thimasarn-Anwar, Liebenberg, & Ungar, 2015; Taylor, Oberle, Durlak, & Weissberg, 2017).

The current investigation employed a multiphase transformative mixed method design to move towards more rigorous conceptualization and measurement of prosocial behavior. Two studies were reported, each with a specific set of research questions contributing to an overall program of inquiry. Both etic and emic perspectives were integrated in order to assess the equivalence of prosocial behavior across European American and Hispanic adolescents, as well as identify potential threats to validity. In the quantitative study, measurement invariance of a prosocial behavior instrument was tested prior to examining group comparisons. In the qualitative study, participatory action research approaches were applied to focus groups in order to explore the cross-cultural generality of prosocial behavior. Together, the inclusion of both
forms of data allowed for a broader range of research questions and produced a more comprehensive understanding of prosocial behavior.

**The “Pros” of Prosocial Behavior**

Although prosocial behavior is often targeted as a desired behavioral outcome in its own right, social scientists have also documented its associations with several other positive indicators of development including: *academic achievement* (Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000; Wentzel & Caldwell, 1997), *self-esteem* (Zuffianò et al., 2014), *self-efficacy* (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996), *civic engagement* (Kanacri et al., 2014), *empathy, positive coping skills* (Carlo et al., 2012; Laible, Carlo, & Roesch, 2004) and *resilience factors* (Haroz, Murray, Bolton, Betancourt, & Bass, 2013). Moreover, engaging in prosocial behavior has also been found to counteract depression and anxiety (Bandura, Pastorelli, Barbaranelli, & Caprara, 1999; Haroz et al., 2013), as well as reduce health-compromising and risky behaviors (Kokko, Tremblay, Lacourse, Nagin & Vitaro, 2006; Raskauskas, Gregory, Harvey, Rifshana, & Evans, 2010). More specifically, cross-sectional and longitudinal studies of high school students have indicated engaging in prosocial behavior decreases the likelihood of smoking marijuana, abusing alcohol, declining school performance, teenage pregnancy and engagement in delinquent behavior (Barber, Eccles, & Stone, 2001; Eccles & Barber, 1999).

In sum, the past four decades have produced a noticeable surge in research studies uncovering the positive implications of prosociality with regard to social-psychological adjustment outcomes and later achievement (Caprara et al., 2000; Layous, Nelson, Oberle, Schonert-Reichl, & Lyubomirsky, 2012; Weinstein & Ryan, 2010). There is, however, a disproportionately greater focus directed towards infancy (Brownwell, 2013; Dunfield, Kuhlmeier, O’Connell, & Kelly, 2011), toddlerhood (Hay & Cook, 2007; Svetlova, Nichols,
Brownell, 2010), and early childhood (Knafo & Plomin, 2006; Larrieu & Mussen, 1986; Romano, Tremblay, Boulerice, & Swisher, 2005), with far fewer studies bringing a developmental perspective to the issues of defining and assessing prosocial behavior during adolescence. Addressing this shortcoming was one of the major goals of the current research.

The Case for Adolescence

In a recently published commission report on adolescent health and well-being, authors argued that investments in adolescent health have the potential to deliver a “triple dividend.” In other words, as puberty initiates a second sensitive period in development, “appropriate investments bring benefits during adolescence, across the life course and into the next generation” (Kleinert & Horton, 2016). With the ongoing changes in physical, hormonal, familial, and relational processes, as well as an actual relocation from the typically more intimate elementary school context to a more impersonal, larger-scale secondary school (Simmons, Carlton-Ford & Blyth, 1987), adolescents are biologically and developmentally primed for both risk and opportunity (Keating, 2004). Thus, this serves as an important age period for understanding prosocial development given the potential for, and diversity of, prosocial behaviors that tend to increase as a result of cognitive and affective development, changes in interpersonal relations, and changes in social context (Carlo, Eisenberg, & Knight, 1992; Estrada, 1995; Fabes, Carlo, Kupanoff & Laible, 1999).

Cognitive and affective development. Adolescents undergo a series of changes in sociocognitive and socioemotional skills, many of which have been conceptually and empirically linked to the development of prosociality. These include developing a greater capacity for abstract thinking, role taking, affective labeling, moral reasoning, sympathy, and empathy (Holmgren, Eisenberg, & Fabes, 1998; Hoffman, 1991; Steinberg, 2005). Several studies have
demonstrated the influence of such developments on how prosocial behaviors are displayed and the frequency with which they occur. For example, adolescents scoring higher on prosocial moral reasoning were rated by teachers as more generous and helpful towards others (Carlo, Koller, Eisenberg, Da Silva, & Frohlich, 1996). Similarly, adolescents reporting higher levels of perspective taking (i.e., understanding another’s thoughts, feelings, and situation) showed a greater propensity to respond prosocially (Estrada, 1995; Roberts & Strayer, 1996).

**Changes in interpersonal relations.** Distinctive features of interpersonal relations that emerge during adolescence also have implications for social developmental outcomes. A well-documented shift occurs in which adolescents increase the frequency of face-to-face contact and digital communication with peers, while simultaneously decreasing time spent with family members (Berndt, 1979; Larson, Wilson, Brown, Furstenberg Jr., & Verma, 2002). Thus, peer groups offer a unique context to shape the nature and frequency of prosocial behaviors that stands in contrast to those with adult figures in their life (e.g., parents, teachers, coaches). While the latter relationships are predominantly hierarchical, the former are more likely to be egalitarian (Youniss & Smollar, 1986). It follows then, that cycles of prosocial exchanges (particularly those not contingent on compliance) are more likely to occur between peers than between adolescents and adults. Empirical evidence has supported these theoretical assertions. Research findings have pointed to the direct (e.g., urge to perform) and indirect (e.g., through expectations) influence of friends or acquaintances on the performance of prosocial acts (Barry & Wentzel, 2006; Padilla-Walker, Fraser, Black, & Bean, 2015; Wentzel, Filisetti, & Looney, 2007), as well as the influence exerted by the larger peer group (Berger & Rodkin, 2012; Ellis & Zabartany, 2007). Beyond peer influence, social learning also plays an instrumental role in prompting prosocial behavior, particularly when considering how behavioral display and
reinforcement are processes through which adolescents acquire social norms (see Brechwald & Prinstein, 2011). As adolescents navigate their peer world with a prescribed guide of approved and accepted behaviors, social norms become powerful regulators of attitudes and actions, as well as notable determinants of subsequent decision-making.

**Changes in social context.** Next to the home environment, school is the primary institution in which the development of youth can be directed and shaped. Although the timing and number of school transitions may fluctuate across communities and within districts, most involve similar structure and process changes from childhood to adolescence including: an increase in school population size (coinciding with a more departmentalized and impersonal environment), frequent classroom changes, and disruption to social regularities (i.e., a necessary social role restructuring; Eccles, Lord, Roeser, & Barber, 1997; Simmons et al., 1987).

With these changes in mind, the current investigation makes an intentional effort to offset the limited attention directed towards adolescent prosocial behavior in the developmental literature and places increased emphasis on this period’s potential for adaptive plasticity (Caprara, Steca, Zelli, & Capanna, 2005; Dunfield et al., 2011). Further probing of the developmental research gap however, reveals additional disparity: the relative absence of systematic studies on normative development among ethnic minority youth.

**The Imperative for Research on Minority Adolescence**

As the heterogeneity of the U.S. race and ethnic composition continues to shift, the importance of establishing conceptual and measurement equivalence in research involving minorities has warranted increased attention (Colby & Ortman, 2015; Frey, 2013; Pew Research Center, 2017). Moreover, the demographic transformation is not unfolding evenly, as select groups are projected to contribute to the changing profile more so than others. Specifically,
Hispanic populations are predicted to be a primary demographic engine of the nation’s future growth, with a population rate more than doubling between 2012 and 2060. They also exhibit a disproportionately young profile compared to other major racial or ethnic groups, with approximately one-third younger than age 18. By comparison, 26% of the Black population and 19% of Whites (the nation’s “oldest” racial group) are under 18 (Colby & Ortmann, 2015; Frey, 2018; Pew Research Center, 2017; Vespa, Armstrong, & Medina, 2018). Consequently, researchers and practitioners are anticipating serving a markedly different population in the coming years. Thus, psychological research on minorities, including the study of prosocial behavior, is confronted with the challenge of ensuring that measurement tools are sensitive to cultural and contextual variations, and able to accurately compare individuals living in different locales and/or exposed to a range of social and/or political forces.

**Concerns and Constraints in Current Measurement of Prosocial Behavior**

In keeping with the goal of furthering our understanding of the conceptualization and measurement of prosocial behavior from social psychological and developmental perspectives, the current project begins with a review of the challenges encountered when delineating between forms of prosocial behavior, the difficulty in measuring individual differences in a multidimensional construct, and the need for greater consideration of the context of culture.

**Defining Prosocial Behavior**

Perhaps at the crux of the measurement issues surrounding prosocial behavior is the lack of agreement on conceptual specification of the construct (see Table 1, for examples of definitions used). Often branded an “umbrella” term, prosocial behavior has referred to helping (Eisenberg & Mussen, 1989; Gurven & Winking, 2008; Hampson, 1984), sharing (Bryant & Crockenberg, 1980; Dunfield et al., 2011; Mussen & Eisenberg-Berg, 1977), caring, comforting
(Eisenberg-Berg & Hand, 1979), altruism (Bierhoff, 1984; 2002; Johnson, Johnson, Johnson & Anderson, 1976), and acting sociably (Eisenberg-Berg & Hand, 1979). Additional challenges arise in discerning behaviors that are more appropriately classified as social conventions or etiquette (e.g. politeness, respect, courtesy; Eisenberg, Lundy, Shell & Roth, 1985; Talwar, Murphy, & Lee, 2007), learning-related behaviors (e.g., cooperating with peers and teachers, following instructions, containing frustration; Coolahan, Fantuzzo, Mendez & McDermott, 2000), as well as effectively taking into account the environment in which they are performed (e.g. home, school, team sport, dire emergency; Berndt & Bulleit, 1985; Rutten et al., 2007; Strayer & Roberts, 1989). Subsequently, a hodgepodge of definitions has emerged, each placing different levels of emphasis on the various components of a prosocial act including:

distinguishing between intention vs. outcome, identifying the underlying motivation (e.g., egoistic vs. altruistic), recognizing characteristics of the actor vs. recipient, and delegating the act itself as high- vs. low-cost or spontaneous vs. planned (Amato, 1990; Batson & Shaw, 1991; Eisenberg & Shell, 1986; Maner & Gailliot, 2007; Vaish, Carpenter, & Tomasello, 2010).

Within this entangled web, taxonomic systems borrowed from the aggression literature have often been used in attempts to differentiate between various forms of prosocial behavior (e.g., anonymous, public, altruistic, emotional, compliant, dire; Carlo & Randall, 2002), as well as their different functions (e.g., proactive/instrumental vs. reactive, egoistic vs. altruistic; Batson & Powell, 2003; Boxer, Tisak, & Goldstein, 2004). However, none of these efforts to define prosocial behavior and address its phenomenological and etiological complexity have led to a universally agreed-upon formulation or acquired the ascendancy necessary to guide the literature.
Measuring Prosocial Behavior

As increasing evidence points to prosocial behavior as an indicator of positive development (particularly in youth), it is somewhat surprising the relatively few measures available for the study of the construct (as a whole), but even more so in adolescence. Among those available, none have been widely adopted or recognized in the literature as preferable over others. This limits the extent to which researchers are able to make informed choices regarding the appropriateness of a prosocial behavior measure for a selected population or context. Most commonly, researchers choose global measures to assess prosociality across situations and motives (Green, Shirk, Hanze, & Wanstrath, 1994; Swisher, Shute, & Bibeau, 1984; Weir & Duveen, 1981). As a result, both low- and high-cost prosocial behaviors often appear within the same instrument despite the different predictors and outcomes associated with each (Eisenberg & Spinrad, 2014). This often results in a restricted ability to distinguish between the various types of prosocial behaviors, perhaps explaining the weak and/or inconsistent relations found with theoretically related correlates (Kurdek, 1978; Underwood & Moore, 1982; Padilla-Walker & Carlo, 2014).

There is additional concern that of the instruments currently available for application today, only a small subset were explicitly developed to measure prosocial behavior in adolescence. More commonly, prosocial instruments serve as the subscales within larger measures targeting aggression or clinical screening instruments (Crick & Grotpeter, 1996; Goodman, 1994, 2001; Gresham & Elliott, 1990; Ladd & Profilet, 1996; Tremblay, Vitaro, Gagnon, Piché, & Royer, 1992). As such, the positive behavior items on these subscales have originally been included to add to the variance explained by aggression and psychopathology in predictive studies (Eron & Huesmann, 1984; Tremblay et al., 1992). When prosocial subscales
are included with the purpose of establishing discriminant validity within psychometric studies, details of their own reliability and validity are often overshadowed by lengthier commentary on the (multiple) aggression subscales.

Just as subscales selectively chosen to balance negatively-themed content do not always undergo psychometric re-evaluation, instruments designed with a different target population in mind are not always subjected to the necessary scrutiny to ensure reliability and validity across groups. Several of the most popular adolescent self-report instruments were originally intended for younger samples (e.g., preschool, kindergarten or elementary school-aged children) or older samples (e.g., college students/adults; Caprara & Pastorelli, 1993; Caprara et al., 2005; Ladd & Profilet, 1996; Weir & Duveen, 1981), yet measurement equivalence across age groups is seldom addressed. The problem is further exacerbated when adaptations are constructed to accommodate a sample in single-study use and limited information is offered as to how the necessary modifications (e.g., rewording of items, adding/eliminating items, etc.) were determined or applied (e.g., Crosby & Smith, 2015; Coyne, Padilla-Walker, Stockdale, & Day, 2011). With minimal insight regarding how measurement invariance or item bias was addressed (e.g., using confirmatory factor analysis, item response theory, etc.), there is potential for systematic inflation or deflation of item response levels.

Lastly, the underrepresentation of minority populations in current culture-comparative research may also be masking potential systematic group differences. Recognizing that adolescence is a culturally defined term, the likely variability in how individuals across cultures undergo the transition may also contribute to differences in prosocial development (Aknin et al., 2013). Cultural norms and socialization practices are likely to affect both prosocial motives, as well as the frequency and type of behavior displayed. Yet without adequate forms of
assessment, it becomes difficult to distinguish between universal and culture-specific features of measurement.

Overall, these findings further substantiate concern regarding whether study instruments under different conditions are yielding measures of the same prosocial indicators. Utilizing a multiphase program of inquiry, the current dissertation aimed to address several of the aforementioned measurement issues. The quantitative study provided a detailed account of how tests of invariance were conducted to determine the extent of measurement equivalence in the Prosocial Behavior Scale (PBS; Pastorelli, Barbaranelli, Cermak, Rozsa, & Caprara, 1997) across European American and Hispanic youth. The qualitative study sought to expand on the restricted range of prosocial behaviors that typically have been included in adolescent studies. Collectively, the two studies endeavored to expand the breadth and range of investigation with the inclusion of both quantitative and qualitative research questions, as well as the integration of results from both phases during the interpretation of outcomes.

**Addressing Current Research Gaps**

Although the immediate goals of the current investigation revolved around measurement challenges in the study of prosocial behavior, three broader perspectives bridged the two studies: *strength-based approaches, participatory action research, and empowerment-based positive youth development*. At this time, there is a call in all three for additional empirical research to build a broader knowledge base (Cargo, Grams, Ottoson, Ward, & Green, 2003; Christens & Peterson, 2011; Cox, 2006; Fox et al., 2010; Rodriguez & Brown, 2009; Travis & Leech, 2013).

**Strength-based approaches.** Both the quantitative and qualitative studies in the following chapters were keen on striking a more balanced approach in research efforts among minority youth. Because the number of Hispanic citizens is projected to constitute the numeric majority (U.S. Census, 2015), there is an even greater urgency to prioritize rigorous studies of
positive development among youth members of this population. The focus on adolescent prosocial behavior aligns well with the ongoing shift towards a comprehensive and holistic view of youth (Larson, 2000) and serves as an intentional departure from the frequently employed problem-oriented objectives that once dominated youth studies. More specifically, highlighting positive social and psychological functioning may help to offset the unintended perpetuation of a deficit perspective and the harmful stereotypes that often emerge alongside the increased focus in adversity of minority youth (e.g., associating deficits of a select group with an entire group of people who share the same ethnic or cultural origin; Rodriguez & Brown, 2009).

**PAR, Participatory action research methods.** In addition to depicting how development during adolescence goes awry (Furstenberg, 2000), the bulk of the literature can also be characterized as *adult-centric* (Bennett et al., 2003; Daiute and Fine, 2003). That is, child and adolescent research and practice is largely constructed through the adult lens, with the perspectives and real-life experiences of the target population often omitted. PAR, in contrast, employs methods that intend to validate the knowledge of the target population and offer opportunities for their direct engagement with issues under study (Rodriguez & Brown, 2009). Similar to the goals of strengths-based approaches, the use of PAR serves as a welcome shift from the traditional hierarchical nature of researcher-subject relationships. Additionally, it often circumvents the risk-saturated discussions found when engaging with youth experiencing high exposure to acute or chronic psychosocial stressors (Olive, 2003a, 2003b; Rozie-Battle, 2002). Instead, working collaboratively in iterative reflection cycles, PAR emphasizes collective inquiry and local ownership, thereby attempting to achieve a true “community-driven” agenda, alleviating insider-outsider tensions, reducing real and perceived racism, and increasing the use of findings for action. At this time, participatory asset-based approaches that enhance youth
voice and participation are gaining traction, however the inclusion of youth contributions remains an exception to the rule (e.g., Cargo et al. 2003; Foster-Fishman, Nowell, Deacon, Nievar, & Mccann, 2005; Jennings, Parra-Medina, Hilfinger-Messias, & Mcloughlin, 2006 Kim, Crutchfield, Williams, & Hepler, 1998; Wallerstein & Duran, 2006; Wong, 2010).

**PYD, Positive youth development.** Recognizing that adolescents may be an under-utilized resource in research intersects with another expanding domain. The PYD perspective, a strength-based conception of adolescence, has often placed heavy focus on the development of empowerment potential through active community participation (Larson, 2000; Lerner et al., 2005; Lerner, Phelps, Forman, & Bowers, 2009). Empowerment has often been defined as a mechanism by which people, groups, and communities gain control over their own affairs (Rappaport, 1987). Unfortunately, however, one recurring criticism of PYD is research to date has primarily applied to mainstream youth. This stands in contrast to the underlying assumption related to the theory of PYD, a desire to empower all youth (Benson, Scales, Hamilton, & Semsa, 2006; Watts & Flanagan, 2007). Mixed methods research may serve as one way to address this shortcoming, particularly when approached from a transformative stance that centers on addressing social issues for marginalized or underrepresented populations (Mertens, 2009, 2012)

In summary, the current investigation is a strengths-based, culture-bound, and action-oriented approach to inform aspects of healthy development, with a special emphasis on how each of the above perspectives extends to minority youth. Both studies set out to better understand how key constructs of the PYD movement, in this case prosocial behavior and well-being, might be expressed differently among disadvantaged minority youth, while emphasizing the reinforcing nature of developmental assets.
Overview of Two-Study Investigation

To review, the primary aims of the current multiphase transformative mixed methods investigation were three-fold: 1) highlight current strengths and limitations in existing measures of prosocial behavior, 2) gain a more comprehensive cross-cultural understanding of prosocial behavior and its relationship to other PYD indicators, and 3) employ a youth-centered, inductive approach to better understand the construct through its variability of and sensitivity to cultural and contextual factors. The rationale for the design and specific research questions for each study are provided below.

Transformative Framework in Mixed Methods

Within the context of pragmatic mixed methods research, the transformative paradigm provides a philosophical framework that intends to promote cultural responsiveness, recognize dimensions of diversity associated with power differences, and use mixed methods that are conducive to social change (Sweetman, Badiee, & Creswell, 2010). When successful, the research “may be able to give voice to diverse perspectives, to better advocate for participants or to better understand a phenomenon or process that is changing as a result of being studied” (Creswell, 2003, p. 216).

In such designs, two distinct data collection phases occur (quantitative and qualitative); however, flexibility is afforded to the implementation (i.e., order in which collection occurs), the priority given to each data type (i.e., equal or unequal), and the stage of integration (Creswell & Plano Clark, 2017). With research strategies integrating emic and etic perspectives to examine the equivalence of prosocial behavior across culturally and contextually different populations, the current investigation lent itself to a multiphase design. This design allowed for each individual study to focus on a specific set of research questions that evolved to address a larger
program objective (Creswell & Plano Clark, 2017). Equal priority was given to both the quantitative and qualitative phases, as each played a critical role in the construct validation process. Finally, integration occurred at the stage of interpretation when the results from both studies were used to address the mixed methods research questions. The two-study mixed methods design is shown in Figure 1.

**Research Questions**

The current investigation examined the conceptual and measurement equivalence of prosocial behavior among European American and Hispanic adolescents. In study one (a quantitative study), the construct and criterion-related validities of the PBS (Pastorelli et al., 1997) were examined, and in study two (a qualitative study), “adolescent lay experts” were interviewed to explore the phenomenology of prosocial behaviors. Both studies aimed to better understand how ethnic background and cultural influence shape prosocial development. The following quantitative (QUAN) and qualitative (QUAL) research questions were used to guide the research.

**QUAN 1:** Does the PBS measure prosocial behavior equally well (i.e., demonstrate measurement equivalence) in European American and Hispanic samples, such that scores have the same meaning and structure?

**QUAN 2:** Does the relationship between prosocial behavior and positive well-being vary as a function of ethnicity (European American vs. Hispanic)?

**QUAL 1:** (a) How is prosocial behavior operationalized by diverse minority youth, and (b) to what extent is the current conceptualization of prosocial behavior generalizable to diverse minority youth?
QUAL 2: To what extent is each item of the PBS comprehensible (i.e., clearly worded and specific enough) and relevant to the measurement of prosocial behavior?

Note on Terms

**Latino vs. Hispanic.** The terms “Latino” and “Hispanic” are used interchangeably by the U.S. Census Bureau (as well as across the literature) to identify persons of Mexican, Puerto Rican, Cuban, Central and South American, Dominican, and Spanish descent; they may be of any race (Humes & Ramirez, 2011; U.S. Census, 2012). Of the two, the term “Hispanic” was coined first and is considered narrower as it refers to persons of Spanish-speaking origin or ancestry. As a result, the Census does not classify persons of Portuguese or Brazilian descent as Hispanic. Interestingly enough, according to results of a 2011 study by the Pew Research Center, the majority (51%) of Hispanic and Latino Americans prefer to identify with their families’ country of origin as compared to 24% who indicated preferring a pan-ethnic label (which partly explains why prior to being forced to choose, over half of the respondents reported no preference regarding the two terms; Cohn, 2012; Taylor, Lopez, Martínez, & Velasco, 2012). Both categorizations were used in the current investigation. In sections in which literature was being reviewed, the choice of one over the other was largely based on the source document and the population referenced within. For both of the current studies, however, Hispanic was used.

**Hispanic ethnicity vs. Hispanic race.** Beginning in 1980, the Census Bureau has asked respondents to indicate their Hispanic origin separately from their race (and beginning in 2000, the option of selecting more than one race was added). However, recent census findings suggest that standard U.S. racial categories may be producing confusion or lacking relevant options for Hispanics to identify with. Across age groups, educational levels and language preference, the
majority of U.S. Hispanics include their Hispanic background as a part of their racial makeup. In the 2010 and 2000 census, when asked “Which best describes your Hispanic background?” and provided three options: part of my racial background, part of my ethnic background and part of both my racial and ethnic backgrounds, over two-thirds of respondents described their Hispanic background as part of their racial background. Yet, according to federal policy, “Hispanic” is not defined as a race, but as an ethnicity, to reinforce the notion that Hispanics can, in fact, be of any race (Gonzalez-Barrera & Lopez, 2015). For the purposes of the current investigation, the term “ethnicity” was used to refer to the study participants’ group affiliation. “Ethnic group” broadly referred to members of nondominant groups, in order to avoid the repeated use of the term minority, as well as to distinguish non-European American groups (which in many places are no longer minorities) from the dominant White majority. Race, on the other hand, was only referenced when reviewing the literature and discussing broader measurement issues that have been raised pertaining to both.

**Ethnicity vs. culture.** Disentangling the notion of culture from ethnicity presents a more difficult challenge. Ethnicity often refers to groups characterized by culture, thereby using one term in the definition of the other. Culture is described as “a collection of social norms, beliefs, and values that are learned over time and that provide both a worldview and a way of living (Guerra & Knox, 2008, p. 305). The phrase “ethnic identity” refers to the ethnic group with which someone identifies and to which he or she looks to for standards of behavior (Phinney, 1990; Phinney, Horenczyk, Liebkind, & Vedder, 2001). All three terms are referenced throughout the current investigation; however, the intention is not to use ethnicity as a proxy for culture. Although the term “Hispanic” is used in both studies, it is recognized that the Hispanic population is comprised of several heterogonous subgroups (each with distinct cultural beliefs
and norms), and therefore the broad use of the term is solely to emphasize the larger group affiliation without assumptions of generalizability between groups. Both of the current studies emphasized the importance of recognizing between-group differences and made explicit recommendations for culturally-specific research to examine the dynamics of positive development within Hispanic subcultures.

**Organization of Dissertation**

In Chapter 1, the conceptual groundwork is laid out, beginning with a review of the methodological issues surrounding the study of prosocial behavior and noting its salience among minority youth. This is followed by providing the rationale for employing both a quantitative and qualitative study in a multiphase transformative mixed methods design. Chapter 2 presents the quantitative study, a secondary analysis that assessed the psychometric properties of a prosocial behavior instrument prior to examining its association with well-being. Chapter 3 describes a qualitative study in which participatory action research principles were applied to adolescent focus groups in order to further unpack the construct definition of prosocial behavior. Detailed interpretations of measurement items were also discussed from the perspective of the target population. The final Chapter 4 concludes with an integration of findings from both forms of data analysis, commenting further on current concerns and constraints in measuring adolescent prosocial behavior. By shedding light on the conceptual and psychometric limitations, the hope is to spur research geared towards addressing the measurement challenges and begin taking additional steps forward in our understanding of the construct.
CHAPTER II

STUDY 1: A QUANTITATIVE STUDY

Examining Cross-Ethnic Equivalence of Positive Youth Development Indicators Among European American and Hispanic Adolescents

Abstract

Group differences in measurement present a challenge. And with shifting population dynamics, there is increased pressure for investigators to modify existing research paradigms to better serve the needs of an increasingly diverse society. Testing for measurement invariance serves as an important tool to address cross-ethnic validity issues. The current study took a closer look at an instrument designed to measure prosocial behavior, examining the relative reliability and validity (across two ethnic groups), as well as data equivalence at various levels of abstraction (configural, metric, scalar and functional). Findings provided insight into three key areas of prosocial behavior measurement. First, results suggested that the measure may be used to examine prosocial behavior (and its association with well-being) in European American and Hispanic adolescents; however, caution should be applied in comparing group means, given that metric invariance was found for only a subset of the items. Second, tests of invariance pointed to the importance of identifying the source of observed group differences. Clear distinctions were made between psychometrically sound measurement tools and artifacts of measurement bias. Finally, a closer look at the association between prosocial behavior and well-being revealed the role of ethnicity as a moderator. The challenges and barriers to conducting scientifically rigorous studies on normative development within diverse populations are discussed.
Quantitative Study Overview

Theory and evidence suggest that the cultural beliefs, values, and norms rooted in ethnic group membership may influence the display of both prosocial behavior (Padilla-Walker & Carlo, 2014) and psychological components of well-being (Kiang, Yip, Gonzales-Backen, Witkow, & Fuligni, 2006; Martinez & Dukes, 1987). Researchers have also identified several shared dispositional and situational antecedents between the two constructs, as well as direct links between specific forms of prosocial behavior and subcomponents of overall well-being (e.g., happiness, vitality, gratitude; Aknin et al., 2013; Layous et al., 2012; Weinstein & Ryan, 2010). The purpose of the current study was to examine ethnic group differences (European American vs. Hispanic youth) in associations between adolescent prosocial behavior and five psychological components of well-being (engagement, perseverance, optimism, connectedness and happiness). Measurement invariance analyses were presented as an important first step in making comparisons across different populations. Using a secondary analysis, this study aimed to answer the following research questions:

**QUAN 1:** Does the PBS measure prosocial behavior equally well (i.e., demonstrate measurement equivalence) in European American and Hispanic samples, such that scores have the same meaning and structure?

**QUAN 2:** Does the relationship between prosocial behavior and positive well-being vary as a function of ethnicity (European American vs. Hispanic)?

Underlying both quantitative research questions was the broader goal to contribute to the important line of research assessing developmental assets and protective (as opposed to risk) factors in marginalized youth. Focusing on two indicators of positive adolescent development, prosocial behavior and well-being (Moore et al., 2004; Park, 2004), a strengths-based approach
was applied in exploring the role of ethnicity as a means to improve current measurement tools.

The following subsections provide additional insight into the broader theoretical frameworks that underpinned the study as a whole (broad aims), as well as the extant literature that guided the specific research questions (QUAN 1 and QUAN 2).

**Broad Aim: Addressing Shifting Perspectives**

Prior to the 1990s, a longstanding trend in adolescent literature focused on delinquent and risk-taking behaviors, often neglecting aspects of resiliency and strength in youth. Depictions of the absence of negative or problem behaviors typically sufficed as indicators of positive development (e.g., “not taking drugs or alcohol,” “not engaging in unsafe sex,” “not participating in crime or violence”). Such approaches were often predicated on biologically reductionist models of genetic or maturational determination (e.g., Erikson, 1968) and yielded descriptions of adolescents as “broken” or on the verge of becoming broken (Benson, Scales, Hamilton, & Semsa, 2006). However, as Larson (2000) noted, youth-reported feelings of alienation, disenfranchisement and dissatisfaction may not necessarily be indicative of pathology, but rather reflect a “deficiency in positive development” (p.171).

Well-timed and aptly aligned with the Positive Youth Development (PYD) movement, this shift in framework drew attention to the processes, strategies, and systems rooted in theoretical traditions of developmental psychology and fueled by the emphasis placed on promoting strengths and assets (Larson, 2000; Lerner, Brentano, Dowling & Anderson, 2003). As the PYD perspective continues to gain ground, researchers and practitioners have uncovered initial evidence of prosocial behavior and adolescent well-being as important variables of interest, particularly in their ability to buffer against a variety of negative stressors and
experiences (Carlo, Crockett, Randall, & Roesch, 2007; Guerra, & Bradshaw, 2008; Moore, Lippman, & Brown, 2004).

**Prosocial Behavior and PYD**

Within PYD, the promotion of prosocial behavior has garnered a lot of attention. Of the fifteen social emotional learning objectives used to classify a “positive youth development” program, three allude to prosociality: recognition for prosocial behavior, opportunities for prosocial involvement, and prosocial norms or health standards for behavior (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2004). Initially, the term “prosocial behavior” was used to lump together any and all forms of positive or competent behavior in social emotional learning programs (SEL; Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Greenberg et al., 2003; Taylor, Oberle, Durlak, & Weissberg, 2017). More recently however, it has begun to separate itself from the broader perspective of positive behavior and establish its own role in the context of intervention programs. These increased efforts to tease apart prosocial behavior from other positive aspects of social development have produced promising results. For example, a recently developed school-based intervention program set out to promote specific forms of prosocial behavior including consoling, helping and sharing (CEPIDEA; Caprara et al., 2014; Caprara, Kanacri, Gerbino, Pastorelli, & Zuffiano, 2015). Findings revealed that targets of the intervention demonstrated an increase in helping behavior, agreeableness, and academic achievement, as well as a decrease in physical and verbal aggression. Thus, prosocial behaviors generated a compensatory additive effect, as well as protective effect in reducing the risk of negative outcomes in the face of stressors (e.g., aggression; Caprara et al., 2015; Kokko, Tremblay, Lacourse, Nagin & Vitaro, 2006)
Positive Well-being and PYD

Evolving from the same driving forces behind PYD, several psychologists have advocated for a stronger distinction to be made between the absence of psychological or behavioral problems and the presence of (positive) well-being (Keyes, 2007; Pollard & Lee, 2002; Russell & Carroll, 1999). Differentiating between the two recognizes that traditional approaches geared towards identifying and addressing mental illness may fall short when it comes to cultivating “the good life” (i.e., “feeling good and functioning effectively”; Huppert & So, 2013; Sheldon & King, 2001). As the literature became more acquainted with well-being, it was loosely defined as “optimal psychological functioning and experience” (Ryan & Deci, 2001, p. 11), as well as broken down further into separate affective (e.g., positive emotion) and cognitive (e.g., life satisfaction, self-esteem) components (Diener, 2000; Diener, Oishi, & Lucas, 2003). Initial studies employing adult samples have highlighted links between a bolstered sense of well-being with measures of increased happiness (Diener, 2000; Seligman, 2013), life satisfaction (Ryff, 1995; Sirgy, 2012; Wheeler, Gorey, & Greenblatt, 1998), and self-esteem (Fulmer et al., 2010; Gecas & Durke, 1995; Usborne & Taylor, 2010), as well as lower levels of depression and hopelessness (Brown, Gary, Greene, & Milburn, 1992; Cummins, 2013; Edwards & Holden, 2001; Sin & Lyubomirsky, 2009; Wood & Joseph, 2010).

Similar to prosocial behavior, evidence has emerged that well-being may be particularly salient for adolescent health trajectories (Grarber & Brooks-Gunn, 1996; Shoshani & Slone, 2013). Coinciding with the increased exposure to both health-compromising and health-promoting behaviors in the transition to adolescence, positive well-being may play a pivotal role in promoting long-term physical and psychological health (Hoyt, Chase-Lansdale, McDade & Adam, 2012). A number of potentially relevant dimensions of well-being have been proposed,
including relational components (e.g., social connectedness), mental health (e.g., depression), and physical factors (e.g., exercise, stress levels). More specifically, Scales and colleagues (2000) identified seven indicators of well-being when defined as “thriving” behaviors: school success, leadership, helping others, maintenance of physical health, delay of gratification, valuing diversity, and overcoming adversity. Tracing paths between these factors and existing theoretical models of “flourishing adults,” Kern and colleagues (2016) developed and administered the EPOCH Measure of Adolescent Well-being across ten samples (n = 4,480 adolescents). Findings indicated that the instrument delineates five factors of adolescent well-being: engagement (i.e., capacity to become absorbed in and focused on task at hand, as well as involvement and interest in life activities), perseverance (ability to pursue one’s goals to completion), optimism (i.e., hopefulness and confidence about the future, taking on a favorable perspective and evaluating negative events as temporary, external and specific to the situation), connectedness (i.e., maintaining satisfying relationships, believing one is cared for and valued) and happiness (i.e., steady states of positive mood and feeling content).

Separating the construct of adolescent well-being into five theoretically-based factors opens up opportunity for more targeted intervention approaches. Previous single-score well-being metrics may have pointed to general interventions aimed at increasing overall happiness or life satisfaction, but were lacking the specificity needed for change (Huppert & So, 2013). Assessment across multiple dimensions, however, can draw attention to particular strengths or weaknesses in distinct domains, and thus lead to improved program design and implementation. For example, if assessments indicate low levels of connectedness, efforts can be directed toward linking youth to a mentor, peer group, or school-based activity. Alternatively, if high perseverance is identified, it may suggest candidacy for a leadership role requiring persistence
through difficulty. The multidimensional nature of the assessment may present particular utility in examining subgroup differences, identifying areas of need, and shaping subsequent policy or intervention. However, as a relatively new instrument, additional testing of EPOCH is required to determine the predictive validity and practical applicability of using separate versus combined domains.

Background: Theory and Research

Research Questions QUAN 1 + QUAN 2: Prosocial Behavior and Positive Well-Being

Recently, there is an increasing empirical interest on explicit links between forms of prosocial behavior and well-being (Aknin et al. 2013; Martela & Ryan, 2016; Shariff & Norenzayan 2007). Although the majority of studies employ adult samples, there are a few examples showing similar results among adolescents (Albanesi, Cicognani, & Zani, 2007; Resnick, Harris, & Blum, 1993). Findings have typically stressed potential ties between positive actions and particular components of heightened well-being, including: choosing to volunteer and high life satisfaction (Meier & Stutzer, 2008; Thoits & Hewitt, 2001), expressing optimism and increased subjective happiness (Lyubomirsky, Dickerhoof, Boehm, & Sheldon, 2011), performing acts of kindness and improved relational functioning (Alden & Trew, 2013), spending money on others and reports of higher subjective well-being and greater happiness (Aknin et al., 2013), and displays of gratitude and boosts in positive emotions such as vitality, hope, and satisfaction (McCullough, Emmons, & Tsang, 2002; Watkins, Woodward, Stone, & Kolts, 2003). In general, individuals with prosocial tendencies seem to more often feel affirmed, esteemed, and valued leading to more frequent positive affect and less frequent negative affect (Diener, Suh, Lucas, & Smith, 1999; Piliavin & Siegel, 2007).
Although there is accumulating evidence suggesting that positive affect is causally related to physical and psychological well-being (i.e., enhancing positive affect can increase adaptive functioning), the direct or indirect influence of prosocial behavior as a potential mood-enhancing, social-integrating, and health-promoting force is less clear (Fredrickson, 2001; Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008; Fredrickson & Losada, 2005; Wissing & Eeden, 2002). In attempts to identify plausible mechanisms of association, both ultimate and proximate explanations have been put forth. Evolutionary models have emphasized the possible selective advantages of prosocial actions (particularly directed towards kin), with evidence of links to reproductive or inclusive fitness (Fehr & Fischbacher, 2003; Simpson & Beckes, 2010). Extending these models to nongenetically related others, the theory of reciprocal altruism (Trivers, 1971) points to the benefits of reciprocal alliances and speaks to the argument of multi-level selection. This includes group selection, which offers additional explanations of the advantages of cooperative and altruistic behaviors, particularly in the context of harsh, variable environments (Hawley, 2014; Nowak, Tarnita, & Wilson, 2010; Sober & Wilson, 1999; Trivers, 1971). Such evolutionary perspectives stipulate that prosocial tendencies are hard-wired and may be evolutionarily preserved because they increase reproductive success (Decety, 2011; De Waal, 2008). In other words, the likely result of this evolutionary selection would be a set of internal mechanisms that would include a tendency to derive pleasure or positive affect from acts that aid in connecting and maintaining positive relationships. Therefore, the reinforcement of social contact via the eliciting of positive affect may have evolved to directly support such behaviors (Baumeister & Leary, 1995).

With the goal of uncovering more proximal explanations of the association between prosocial behavior and well-being, research has largely revolved around self-determination
theory (SDT). SDT postulates that the satisfaction of a person’s core psychological needs of autonomy, competence, and relatedness is often fulfilled by way of prosocial activities (Deci & Ryan, 1985, 2002; Gagne, 2003; Ryan, & Deci, 2000). That is, prosocial acts, when volitional (autonomy) offer opportunities to demonstrate mastery (competence), and feel connected to and supported by others (relatedness), and thus facilitate satisfaction of basic needs (Gagne, 2003). In turn, fulfillment of such needs promotes optimal psychological functioning and fosters growth, integration, and constructive social development (Ryan & Deci, 2000), all of which are associated with positive well-being (Reis, Sheldon, Gable, Roscoe & Ryan, 2000; Sheldon & Elliot, 1999), happiness (Sheldon, Ryan, & Reis, 1996), and vitality (Nix, Ryan, Manly, & Deci, 1999).

The most direct investigation of whether prosocial behavior is a direct outcome of need satisfaction was attempted by Gagne (2003). Testing a model derived from SDT in two samples, college students (study 1) and volunteers at an animal shelter (study 2), needs satisfaction was found to mediate the relation between autonomy support (i.e., choice and support of personal initiative) and quantity of prosocial behaviors (e.g., donating to charity, recycling, volunteering, recycling, blood donation). In efforts to unpack the satisfaction of basic needs further, work by Weinstein and Ryan (2010) teased apart the positive effects of autonomous versus controlled forms of helping on subsequent well-being. Similarly, Aknin and colleagues (2013) drew attention to the role of social connection in facilitating the influence of prosocial spending on increased happiness. Finally, Martela and Ryan (2016) tested a novel type of manipulation of prosocial behavior in which there was no direct or potential face-to-face contact with the beneficiary. Consistent with Weinstein and Ryan, results showed that satisfaction of all three psychological needs (autonomy, competence, and relatedness) fully mediated the relations...
between the prosocial experiential condition and well-being outcomes of positive affect, vitality, and meaningfulness.

In summary, beginning at an ultimate (evolutionary) level of analysis, finding satisfaction in prosocial actions and phenomenally altruistic propensities (e.g., cooperation, sharing, etc.) has yielded evolutionary selective advantages through inclusive fitness (support of genetic relatives), reciprocal altruism (alliance building and resource sharing with non-kin) and group fitness (enhancing collaborative effectiveness). Moving to a proximal (psychological) level of analysis, the SDT evidence conducted to date argues that feeling beneficent (in this case described as a sense of having a positive impact on others) is associated with autonomy, competence, and relatedness satisfaction, which in turn serve as inherent and direct sources of enhanced feelings of wellness.

**Research Question QUAN 1: Testing for Measurement Invariance in Cross-Ethnic Comparisons**

Beyond the need for additional research to better understand the underlying mechanism between adolescent prosocial behavior and well-being, it is also important to enhance the generalizability of study findings. Multigroup comparisons often assume that the instrument of measurement (e.g., ability tests, assessment/attitudinal scales, etc.) is operating in the same way across groups of interest and/or that the underlying construct has the same theoretical structure and psychological meaning (Bieda et al., 2017; Byrne, 1989; Byrne, Shavelson, & Muthén, 1989). Yet without assessing measurement invariance it becomes difficult to determine whether a cross-cultural difference has been uncovered or if the cultural difference found is due to response biases and/or a group difference in measurement properties of the construct.
Although researchers have not converged on a single approach for definitively assessing measurement equivalence, the most commonly used strategy involves testing for cross-group invariance of an instrument’s factorial structure with structural equation modeling (SEM). This allows for data equivalence to be examined at various levels of abstraction (Hui & Triandis, 1985; Knight & Hill, 1998; Malpass & Poortinga, 1986; Poortinga, 1989), which are broadly grouped under the categories of conceptual equivalence (i.e., extent to which a construct has the same meaning across groups; Flaherty 1987; Hines, 1993; Hui & Triandis 1985) and psychometric equivalence (i.e., comparable psychometric properties including reliability and validity; Hughes, Seidman, & Williams, 1993; Hui & Triandis, 1985). The latter can be broken down further into four tests for invariance: configural (i.e., factor structure is the same across groups), metric (i.e., factor loadings are similar across groups), scalar (i.e., comparable degree, intensity or magnitude of instrument scores across groups) and functional (i.e., similar precursors, consequents, and correlates across ethnic groups). Taken together, these forms of data equivalence represent requisite building blocks necessary for cross-cultural comparative research.

Research Question QUAN 2: Ethnic Identity, Prosocial Behavior, and Well-Being

An emerging body of work has pointed to culturally-related ecological, socialization and individual-level mechanisms that may account for between-group and within-group differences in positive outcomes among ethnic minority youth (Fuller & Garcia Coll, 2010; Knight, Bernal, Garza & Cota, 1993; Phinney, Madden, & Santos, 1998). These range from the influence of more distal factors, such as individualism-collectivism (e.g., values suggesting societies that foster interdependence and collectivism exhibit more prosocial and/or cooperative tendencies) to
aspects of individual ethnic identity at the proximal level (e.g., acculturation; Bernal & Knight, 1993; de Guzman, Do, & Kok, 2014; Triandis, Marin, Lisansky, & Betancourt, 1984).

As one of the fastest growing segments of the U.S. (and in keeping in line with the current research questions), the examples henceforward will be limited to studies with Hispanic/Latino participants (Colby & Ortman, 2015; Frey, 2018; Pew Research Center, 2017). Though limited work has been conducted, a handful of studies have identified specific culturally-related psychological constructs underlying prosocial development and overall well-being. These have included *familism*, which describes the strong orientation toward the family, *simpatia*, which demonstrates a general tendency towards avoiding interpersonal conflict by practicing positive behaviors, and *respeto*, which emphasizes respect and adherence to expectations. Although each of these may vary within Latino subcultures, evidence of these values has been found embedded among Latin American communities from a wide range of national, economic, and social backgrounds (Aydinli, Bender, & Chasiotis, 2013; Gallo, Penedo, Monteros, & Arguelles, 2009; Marín & Marín, 1991; Triandis et al., 1984). For example, among Mexican American adolescents, *familism* was linked to positive youth development through its promotion of a collective sense of self, warm connection to others and sense of obligation to care for others. Each of these in turn have substantial overlap with the performance of prosocial behaviors and components of psychological well-being (Calderon-Tena, Knight, & Carlo, 2011; Knight, Carlo, Basilio, & Jacobson, 2014).

In studies that have integrated investigation of cultural and developmental mechanisms, additional indirect relationships have been found linking ethnic identity to prosocial behavior. For instance, in emphasizing the importance of social cognitive and social emotional processes, previous findings have drawn attention to potential mediators. Both perspective-taking and
moral reasoning have been found to mediate the relation between familism values and several forms of prosocial behavior or altruistic helping among Latino youth (Armenta, Knight, Carlo, & Jacobson, 2011; Knight et al., 2014). Similarly, other studies have pointed to the role of self-esteem in the association between ethnic identity and prosocial behavior and/or well-being (Bracey, Bámaca, & Umaña-Taylor, 2004; Rivas-Drake, Hughes, & Way, 2008; Rivas-Drake et al., 2014). These have all largely been based off of social identity and self-categorization theories that posit that feeling attached or a sense of belongingness to an ethnic group can facilitate positive behavioral outcomes (Tajfel & Turner, 1979; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). More specifically, Knight and colleagues (2015) suggested it may be the case that the cultural system encourages familism values, which in turn promotes the development of social cognitive processes that then promote prosocial behaviors and well-being outcomes.

Summary

The research lines described above provide a marked shift away from the previous concentration in cross-cultural studies on inadequate economic and social resources, elevated rates of problem behaviors and mental illness, decreased social competence, and limited academic success (Garcia Coll et al., 1996; McLoyd, 1990; Quintana et al., 2006; Russell, Ford, Rosenberg, & Kelly, 2013; Yoshikawa, Aber, & Beardslee, 2012). Yet in order to fully take advantage of these new directions in minority youth studies, the methodological challenges must be addressed. This includes the need for equivalency of measurement properties when examining cross-racial or cross-ethnic group differences in prosocial behavior.

The Present Study

The purpose of this study was to gain a more nuanced understanding of the implications of ethnic group membership in the association of prosocial behavior and well-being. Before
comparisons across ethnic groups were made, a sequence of nested confirmatory factor analysis (CFA) models was used to evaluate factorial invariance, progressing from least restrictive to most restrictive models (configural, metric, scalar). This addressed the first research question QUAN 1 aimed at determining the extent to which the PBS demonstrates measurement equivalence between European American and Hispanic adolescents. Establishing measurement equivalence is particularly important when the research goal is to compare means on a measure (as was the case for the second research question QUAN 2) because nonequivalence of the PBS may produce mean differences that are not a function of ethnic differences in prosocial behavior (Borsboom, 2006; Hui & Triandis, 1985; Steenkamp & Baumgartner, 1998; Van de Vijver, 2007). Ethnic group moderation analyses were also conducted as a final test of psychometric functional equivalence. This last analysis addressed research question QUAN 2, examining the relation between prosocial behavior and a theoretically prescribed outcome (well-being). Given the limited (and in some cases, complete lack of) systematic investigation comparing prosocial behavior across ethnic groups and/or examining its associations with factors of well-being, no hypotheses were offered because the study was exploratory.

**Method**

The Parenting Across Cultures (PAC) project is an international collaboration (across thirteen countries) examining biological, cultural and familial processes impacting child and adolescent development (Lansford et al., 2012). For the purposes of the current investigation, cross-sectional data of youth self-reports at wave 5 ($M=13.4$) from the only study site in the U.S. (Durham, North Carolina) were analyzed.
Study Site

In the PAC, recruitment at each study site was designed to sample families that were representative of the city in which they lived (e.g., with respect to socioeconomic status, public or private school enrollment), but the samples included in the present study were not nationally representative. For the data in the current study of youth in the U.S., participants were recruited from Durham, a city with a population of 250,000, located in a larger metropolitan area of North Carolina (population of 1.2 million). Durham was formerly a manufacturing hub in the tobacco industry and largely remains a working-class city. Of the population of Durham, 46% is European American, 11% is Latin American (although this number may be an underrepresentation given the undocumented Latin American families living in Durham), and 37% is African America.

Study Sample

The study sample included 172 adolescents aged 11-15, of which 97 were male (56.4%), 96 were European American (55.8%), and 76 were Hispanic (44.2%). Families were recruited from schools that served socioeconomically diverse populations within each participating group (74.4% of students eligible for free or reduced lunch). Because European American students are underrepresented in the public schools relative to their representation in the Durham population, additional recruitment took place through two Durham private schools where there was a higher proportion of European American students.

Descriptive analyses revealed no differences between ethnic groups in child age or gender. European American mothers were older ($M = 46.0$ compared to $M = 38.4$) and more highly educated than Hispanic mothers with regard to completed years of education ($M = 16.9$ compared to $M = 10.5$). Hispanic mothers reported living in the U.S. for an average of 16 years
(ranged from 5 to 39 years) and 92% of them reported speaking Spanish at least half the time they were at home (40.8% reported speaking Spanish all the time). Additional socio-demographic information for the total sample and each ethnic subgroup are reported in Table 2.

**Procedure**

Letters describing the study were provided to classroom teachers to be sent home with their students. Parents willing to be contacted by study personnel were asked to return a signed form to the school. To provide an additional avenue for recruiting Spanish-speaking families, flyers were posted in over 20 retail establishments, restaurants, libraries and community centers. Spanish-speaking research assistants also attended parent meetings at elementary schools, community centers, afterschool programs and local charitable organizations in order to describe the study. Once consent to participate was obtained, an interview/survey administration was scheduled and took place in participants’ homes.

**Measures**

**PBS, Prosocial Behavior Scale.** Adolescents completed the 13-item PBS scale composed of statements describing various prosocial behaviors. Each item is rated on a 1 to 3 scale: 1 =*never*, 2 =*sometimes*, or 3 =*often*. One item is reverse coded: “When I have to do something I don’t like, I get mad.” A single score was computed as the average of 9 prosocial behavior items (the remaining 4 items were distracters; see Appendix A for full instrument). The validity and reliability of this scale has been demonstrated in European samples (e.g., Caprara & Pastorelli, 1993; Caprara, Steca, Zelli, & Capanna, 2005). In the current study, reliability analysis for the whole sample revealed an $\alpha$ of .69, with a lower reliability score for European American adolescents ($\alpha = .59$) compared to Hispanic adolescents ($\alpha = .73$). Details are provided in Table 3.
**EPOCH, Measure of Adolescent Well-Being.** Adolescents completed self-reports of well-being using the EPOCH (Kern, Benson, Steinberg, & Steinberg, 2016; see Appendix A for full instrument). This instrument includes five factors: *engagement* (e.g., “I get so involved in activities that I forget about everything else”), *perseverance* (e.g., “I finish whatever I begin”), *connectedness* (e.g., “When something good happens to me, I have people who I like to share the good news with”), *optimism* (e.g., “I believe that things will work out, no matter how difficult they seem,” “I am a hard worker”) and *happiness* (e.g., “I am a cheerful person”). Across domains, each item is scored on a 1 to 5 scale (*almost never/ not at all like me* = 1; *almost always/very much like me* = 5). Scores are computed for each domain as the average of the five items. Reliability for the total scale (α = .93) and subscales (α = .71-.89) were consistent with prior studies. A similar pattern was seen in both the total sample and both ethnic groups in which the internal consistency for the *happiness* subscale was the highest (α = .89-93) among the five subscales and *perseverance* was the lowest (α = .61-78). Details are provided in Table 3.

**Socioeconomic status.** On a questionnaire, parents reported their annual total income (ranging from <$5,000 to >$85,000) and number of individuals living in the household (ranging from 2 to 11 adults and children), both of which were used to calculate household per capita income as an indicator of social economic status. For wave 5 of the data, household per capita income ranged from $833.33 to $42,500 (*M* = $13,572.10, *SD* = $8,474.01).

**Data Analysis Approach**

The current study sought to replicate the one-factor model of the PBS identified by Pastorelli and colleagues (1997) with Italian elementary school participants. Here, drawing on a sample of European American and Hispanic adolescents, psychometric properties of the
instrument were further evaluated prior to examining group differences in order to establish the required measurement equivalence noted in research question QUAN 1.

Following forward sequential procedures suggested by Arbuckle (2005) and Brown (2015), multiple tests of model fit and invariance were conducted to establish measurement equivalence between the European American and Hispanic subgroups. These included: (1) preliminary separate single-group CFA analyses across groups; (2) a baseline multiple-group model analysis with no equality constraints imposed (configural invariance); (3) a model with equality constraints across groups specified for measurement weights (metric invariance) and (4) a model with equality constraints across groups specified for measurement intercepts (scalar invariance). As each set of new parameters was tested, those identified as invariant in previous levels were constrained, thereby allowing for testing of increasingly restrictive hypothesized measurement invariance.

Next, to address the research question QUAN 2, mean comparisons were examined to explore potential ethnic group differences in prosocial behavior and well-being. Where significant ethnic differences were observed, effect sizes were calculated. Finally, to examine the association between study variables, bivariate correlations were estimated and moderation analyses were performed to test the interaction term of prosocial behavior and ethnic group membership in adolescent well-being.

**Model Evaluation Criteria**

In structural equation modeling, the use of multiple fit indices is required in order to consider different aspects of fit (Anderson & Gerbing, 1988; Hu & Bentler, 1995). The nested model comparisons of the current study involved estimating both absolute fit indices (e.g., chi-square to degrees of freedom ratio and the root mean square error of approximation), as well as
incremental indices (change in chi-square and the comparative fit index). While absolute fit indices indicate how well an a priori model reproduces the observed data, the incremental fit indices assess improvement in fit by comparing a target model with a simpler (yet more constrained) nested model (Hu & Bentler, 1999; Wheaton, Muthén, Alwin, & Summers, 1977). Comparative Fit Index (CFI) values range from 0 to 1, with values of .95 or higher recognized as indicative of good model data fit (Bentler, 1990; Hu & Bentler, 1999). The root mean square error of approximation (RMSEA; also as known as an absolute “misfit” index) decreases as fit improves. RMSEA values range from 0 to 1, with values of .06 indicating a good model fit (Hooper, Coughlan, & Mullen, 2008; Hu & Bentler, 1999). Finally, for the $\chi^2/df$ ratio, a 2:1 ratio has been proposed as an acceptable threshold level (Tabachnik & Fidell, 2007).

The process of model fitting was based on a nested hierarchy of models. Full invariance was deemed to be supported when the inclusion of additional constraints did not produce a substantial change in model fit. At each stage of measurement invariance testing, a chi-square difference test was used as a primary indication of incremental model fit (e.g., whether a new level of measurement invariance was attained), however, change in CFI was also examined to avoid relying exclusively on the chi-square difference test (which is known to be overly sensitive to small differences in models; Bentler, 1990; Brown, 2006; Cheung & Rensvold, 2002). Following Cheung and Rensvold’s (2002) recommendation, a decrease in the CFI greater than .01 was considered a meaningful decrement in fit, while a difference less than .01 was used to indicate equivalence across groups. When there was evidence of noninvariant measurement parameters, subsequent analyses proceeded assuming partial rather than full measurement invariance.
Results

Descriptive Statistics

Univariate normality was assessed using skewness and kurtosis values (Nimon, 2012; Stevens, 2002). The PBS and EPOCH total scale scores come close to a normal distribution: skewness = -.61 and -.80 and kurtosis = .52 and 1.0, respectively. The slight left skewness indicated that most participants’ average scores fell on the upper end toward higher levels of prosocial behavior and well-being. Levene’s test of homogeneity revealed that the equal variances assumption of the ANOVA was met for the prosocial behavior scale ($F_{(1,163)} = .731, p = .394$) but not for well-being total scale ($F_{(1,163)} = 4.91, p = .028$) or the subscale of engagement ($F_{(1,163)} = 9.17, p = .003$). Compared to the Hispanic group, European American youth showed greater variance for both.

Research Question QUAN 1: Comparison of Reliability Coefficients

To begin assessing measurement equivalence, significance tests for differences in reliability scores (Cronbach’s alphas; see Table 3) between ethnic groups were conducted using cocron, an R statistical package (Diedenhofen &Musch, 2016). Results revealed higher reliability in self-reported prosocial behavior, engagement, and perseverance among Hispanic youth as compared to European Americans. Differences in internal consistency ranged between 0.59 and 0.94. The largest difference in magnitude of alphas was found for prosocial behavior (European American = 0.59 vs. Hispanic = 0.73), although the difference was not significant. For well-being total and subscale scores, most were comparable across groups except for engagement (European American = .61 vs. Hispanic = .78, $p = .035$).
Research Question QUAN 1: CFA for Full-Sample and Ethnic Group Data

A preliminary CFA was conducted to examine the factorial structure of the PBS for the full-sample data, followed by two “single-group” CFAs to examine each ethnic group separately (see Table 4, for details on model fit). The PBS was considered unidimensional by the developers and thus the factor model specified the items as loading on the same factor. In order to identify the CFA model, one factor loading per ethnic group was fixed to unity and the corresponding intercept was set to zero. Summary fit indices from the CFA suggested the model exhibited borderline acceptable fit, $\chi^2 (27) = 53.05, p = 0.002; \chi^2/df = 1.97; CFI = .87; RMSEA = .08$. Using modification indices, changes were made to improve the goodness of fit, parsimony and interpretability of the model (Brown, 2006). More specifically, following recommendations by Byrne (2012), the reverse-coded Item 3 (“When I have to do things I don’t want to do, I get mad”) was removed from further analyses because it failed to load significantly on the general prosocial factor in both ethnic groups (see Table 5, for all item factor loadings). Subsequent CFAs were therefore based on the remaining 8 items. Additionally, correlated errors were specified for two pairs of items in which covariance across the indicators was not explained by the latent construct (Brown, 2006; Kline, 2005). According to Brown (2006), item errors may be nonrandom, and correlated across statements that are “very similarly worded, reverse-worded, or differentially prone to social desirability, and so forth” (p. 181). With regard to the correlated error items, the first set of items both referred to leisure time with friends (“I like to play” and “I spend time with friends”) and the second set of statements both alluded to allowing others to use one’s belongings (“I share things with my friends,” and “I let others use my things”). With these two pairs of correlated errors included, the final re-specified model showed improved fit, $\chi^2 = 26.0, df = 18, p = .11; CFI = .96; RMSEA = .05$, and was named the “modified hypothesized
model” (see Table 4, for comparison of unmodified and modified models). This model served as the foundation for subsequent analyses of measurement invariance.

**Research Question QUAN 1: MGCFA for Ethnic Group Data**

Next, three models were used to examine measurement invariance for the modified hypothesized single-factor model: *configural invariance* (constraining the pattern of fixed and free factor loadings across both groups), *metric invariance* (constraining equality of all factor loadings across both groups), and *scalar invariance* (constraining equality of all intercepts of like items’ regressions on the latent variables across both groups; Vandenberg and Lance, 2000).

**Configural invariance.** In order to identify a baseline model with adequate fit, configural invariance was tested by specifying the modified hypothesized model to be the same across the two ethnic groups (Kline, 2005). Results indicated good fit of the configural model ($\chi^2 = 45.17$, $df = 36$, $p = .14$; RMSEA = .04; CFI = .96), suggesting that the single-factor model was an appropriate representation of the factor loadings across both groups (see Table 6, for multigroup CFA model comparisons).

While replicating a construct’s structure provides preliminary evidence of configural invariance, a much stronger case is made if patterns of zero and nonzero factor loadings are equivalent across groups (with no equality constraints imposed). In general, the magnitude of factor loadings for European Americans and Hispanics were comparable and significant, with values ranging from low to moderate (.28 - .74). With the exception of three items (“I try to make people happier who are sad,” “I try to help others,” and “I like to play,”), higher factor loadings were found in the Hispanic subgroup as compared to the European American subgroup. The largest of these differences were seen in the items “I let others use my things” and “I help others with homework,” both of which had a much higher loading in the Hispanic sample (.68
and .54, respectively) as compared to the European American sample (.28 and .29, respectively). Conversely, “I spend time with my friends” was higher for European American adolescents (.73 compared to .40).

In summary, the high level of fit demonstrated by the configural model suggested the basic factor structure with the same pattern of fixed and freed loadings was invariant across groups (Vandenberg & Lance, 2000), even though there were group differences in the actual loading values. Nevertheless, with configural invariance established, this configural-invariant model was then used as the baseline to evaluate model fit associated with subsequent, more restrictive tests of metric and scalar invariance.

**Metric invariance.** In the next step of measurement invariance testing, metric invariance was examined by imposing equality constraints on corresponding factor loadings and fitting the factor model to observed data from each group simultaneously. Although results revealed good absolute fit (e.g., $\chi^2/df < 2$; RMSEA < .05; CFI > .90), the change in CFI from the less-constrained configural-invariant model exceeded the .01 threshold and the chi-square difference test was significant. Together, these indicated that the imposition of constraints (equal factor loadings across groups) resulted in a statistically significant decrease in fit of model, $\Delta \chi^2 (8) = 15.82$, p = .04 (see Table 6, for all multigroup CFA model comparisons). Therefore, full metric invariance was not supported.

**Partial metric invariance.** When full metric invariance is not supported, researchers have suggested that a subset of indicators on the factor could still be cross-culturally invariant. This “partial metric invariance” serves as a compromise between full measurement invariance (which frequently does not hold up in actual practice) and the complete lack of measurement invariance across all indicators (Byrne, Shavelson, & Muthen, 1989; Milfont & Fischer, 2010;
Reise, Widaman, & Pugh, 1993). To determine which, if any, of the indicators were noninvariant, the constrained structural paths were released to freely vary between the two groups one at a time while all remaining parameters were constrained to be invariant. Results of this post hoc analysis indicated that three of the eight prosocial behavior items differed significantly for European Americans and Hispanic youth (see Table 7, for results of the individual path analysis of each item). Allowing just these three indicators to have different loadings for the two groups resulted in a statistically significant improvement in fit compared to the full metric invariance model. Furthermore, this partial metric invariance model fit just as well as the full configural invariance model, based on the $\chi^2$ difference test: $\Delta \chi^2(5) = 5.09$, $p = .41$ (as shown in Table 6). The three non-invariant prosocial behavior items were “I try to make people happier when they are sad,” “I share things I like with friends,” and “I let others use my things.” For all three, the factor loadings were higher for Hispanic youth compared to European Americans.

**Scalar invariance.** Moving forward with a partial metric invariance model, the most stringent scalar invariance model was tested by constraining the intercepts of the five invariant indicators (see Table 8, for final list of invariant items) to be equal across the two groups. The three noninvariant indicators identified above were permitted to have different means across groups. Scalar invariance tests whether the mean score for each indicator is the same across the two groups, while also requiring the indicator loadings to be equal across the groups. The change in model fit compared to the partial metric invariance model was modest and not significant ($\Delta \chi^2(7) = 11.44$, $p = .14$; see table 6, for all multigroup CFA model comparisons). Thus, scalar invariance was supported by the data and therefore the prosocial behavior scale means and correlations (with well-being) could be compared across groups.
Research Question QUAN 2: Comparison of Ethnic Group Means

To explore ethnic group mean differences in prosocial behavior, an independent t-test was performed. Results indicated a significant difference in the self-reported scores, with higher prosocial behavior reported by European American adolescents ($M = 2.60$, $SD = .31$) compared to Hispanic adolescents ($M = 2.48$, $SD = .34$), $t_{(163)} = 2.53$, $p = .012$; $d = .39$. Turning to well-being, multivariate analysis of variance (MANOVA) was conducted to examine potential differences across the five subscales. The overall MANOVA was significant, Wilk’s $A = .89$; $F_{(5, 158)} = 3.90$, $p = .002$. Follow-up univariate ANOVAs found a significant difference for the optimism subscale, on which European American reported higher scores than their Hispanic counterparts ($F_{(1, 163)} = 6.60$, $p = .011$). A marginally significant effect in the same direction was found for perseverance ($F_{(1, 163)} = 3.88$, $p = .051$). Additional details regarding mean difference tests are provided in Table 9.

Research Questions QUAN 1 + 2: Functional Measurement Equivalence

To test for the final type of measurement equivalence (i.e., psychometric functional equivalence), bivariate Pearson correlations were estimated between all study variables (see Table 10 for all correlations with full sample and Table 11 for each ethnic group reported as off-diagonal elements). For the total sample, all scores were significantly correlated in the theoretically expected direction- youth who reported more prosocial behavior also reported higher well-being. *Fisher r-to-z transformations* were calculated to identify potential significant differences between correlation coefficients for European American and Hispanic youth. Results revealed the pattern of covariation between prosocial behavior and total well-being score were significantly different for the two ethnic groups: European American $r$ (93) = .34, Hispanic $r$ (72) = .61, *Fisher r-to-z test*, $z = 2.22$, $p = .026$. Two of the five well-being subscales also showed
significantly different associations with prosocial behavior: engagement, European American, \( r = .01 \), Hispanic \( r = .49 \), Fisher r-to-z test, \( z = 3.29, p < .001 \) and perseverance, European American \( r = .16 \), Hispanic \( r = .61 \), Fisher r-to-z test, \( z = 3.42, p < .001 \).

As a final step, the most rigorous test available for assessing functional equivalence was conducted by investigating ethnic group membership as a moderator of the association between prosociality and well-being. The estimated regression equation showed that both higher prosocial behavior \( (b = .53, SE = .16, \beta = .18, p = .002) \) and Hispanic ethnicity \( (b = -1.03, SE = .58, \beta = .23, p = .024) \) predicted higher well-being, \( F_{1,160} = 9.22, \Delta R^2 = .26, p < .001 \).

Additionally, the interaction term between prosocial behavior and ethnic group membership was significant, accounting for an additional 2.3\% of the variance (adjusted \( R^2 \)) in well-being, \( \Delta F_{1,160} = 4.66, p = .032 \). Of note, both main effects and the interaction term remained significant when adolescent age, adolescent gender, and SES per capita were entered as covariates. Controlling for demographic variables, the addition of the interaction term to the model still accounted for significantly more variance than prosocial behavior and ethnicity main effects alone, \( \Delta F_{1,156} = 4.66, p = .03, \Delta R^2 = .022 \) (see Table 12, for a summary of the regression analysis predicting well-being). Visual inspection of the post-hoc probing interaction plot shown in Figure 2 revealed that higher prosocial behavior was associated with higher well-being, but only for Hispanic youth.

**Discussion**

The PYD movement has challenged developmental scientists to more fully consider and conceptualize the role of race and ethnicity in studies of youth development, with greater emphasis on the plasticity of development and the promotion of desired outcomes (Lerner et al., 2005; Roth and Brooks-Gunn, 2003). This has often included both prosocial behavior and well-
being, however, difficulty in attaining cross-cultural equivalence in measurement practices has hindered progress. Part of the issue may be due to the use of instruments that are based on evidence from the normative development of White, nonminority youth. These instruments may not account for normal variations in developmental trajectories based on minority youth’s native language, cultural norms, or factors associated with minority status. If a measure is not assessing the same construct (or is not assessing the construct in the same manner) in different groups, the inferences drawn from cross-group comparison studies are at best ambiguous, and at worst biased. The current study tackled these issues by taking a closer look at the measurement equivalence exhibited by the PBS (research question QUAN 1) and exploring potential European American and Hispanic youth differences in prosocial behavior and well-being (research question QUAN 2).

**Summary of Findings for Research Questions QUAN 1 + QUAN 2**

To begin, the presumed single factor model proposed in the instrument’s original development study (Pastorelli et al., 1997) was tested for equivalence in the total sample and in both ethnic groups. With regard to research question QUAN 1, configural invariance confirmed that a single factor was evident across both ethnic groups. Partial metric invariance established that the factor loadings between a subset of the observed variables and the underlying construct were equivalent between groups. Finally, scalar invariance revealed true-score equivalence between the subgroups, by demonstrating similar intercepts in the model for the five invariant items identified. Overall, these results suggested that European American and Hispanic adolescents share a similar frame of reference regarding prosocial behavior, evidenced as very similar clusters of associated behaviors. As discussed in more detail below, the lack of support for full metric invariance raised concern of distinct patterns of salient and nonsalient loadings
defining the structure of the scale for the two groups. However, the support for partial metric invariance at least ensured that some representative items carried similar weight in both groups with respect to reflecting the underlying dimension of prosocial behavior. Scalar invariance provided support for subsequent analyses to examine mean differences, increasing confidence that those differences could be attributed to an actual group difference in the underlying construct. Taken collectively, the results of the multigroup confirmatory factor analyses (MGCFA) suggested prosocial behavior (as measured by the PBS) was a valid construct among young adolescents, with an identifiable structure that can be used to differentiate among adolescents from differing ethnic groups (European American and Hispanic) once noninvariant items are removed.

Turning to research question QUAN 2, an exploration of potential mean differences in prosocial behavior and well-being showed that European American adolescents reported significantly higher levels of both prosocial behavior and well-being compared to their Hispanic peers, although the effect size was small in both cases. Similar patterns of covariation were found for prosocial behavior and well-being, with stronger associations for the connectedness and happiness subscales, as compared to engagement, perseverance and optimism. Finally, results for the ethnic group moderation analyses (to test for psychometric functional equivalence) further corroborated the evidence of a potential ethnic group difference in prosocial behavior. Although prosocial behaviors were positively associated with well-being in both groups, at higher levels of prosocial behavior, the strength of the association was greater for Hispanic compared to European American youth. Further discussion of possible reasons for this difference is found below (see section titled “Research Question QUAN 2: Group Comparisons Between European American and Hispanic Youth”).
Research Question QUAN 1: Considerations of Measurement Comparability across Ethnic Groups

It is important to keep in mind, that strong (i.e., scalar) invariance was found for just over half of the items tested (5 of 9 indicators). While researchers could conceivably compare mean values based on the five items that showed strong invariance, it would be important first to consider whether those five invariant items sufficiently capture the construct of interest. It is not yet clear what guidelines should be used for interpreting group comparison results when only partial metric invariance is found (Byrne et al., 1989). Suggestions have ranged from group comparisons being permissible if “more than half” or “the majority” of the indicators per factor are invariant to freeing indicators to vary across groups as long as it “makes substantive sense to do so” (Byrne et al., 1989; Steenkamp & Baumgartner, 1998). Although the practice of releasing constraints is frequently employed to manage measurement noninvariance across groups, limited knowledge exists regarding the statistical and conceptual implications of moving forward with group comparisons of means and variances when one only has partial measurement equivalence. Thus much remains at stake as the field continues to grapple with questions about measurement equivalence and its usefulness for identifying conceptually meaningful differences in constructs across groups, including whether it is possible to quantify the impact of violations of full measurement invariance on such group comparisons (Davidov, Meuleman, Cieciuch, Schmidt, & Billiet, 2014; Millsap, 2005; Vandenberg, 2002).

However, the advantage of testing for full versus partial invariance facilitated the identification of likely sources of nonequivalence between groups. This led to a few key findings. First, the reverse-coded item “When I have to do things that I don’t like, I get mad” statement was the most problematic item (and thus removed in the process of establishing configural
invariance). Modifying an item by reverse wording, and thus inquiring about the opposite state, often leads to more difficulties in interpretation; in this case, the fact that the statement includes two negative connotations (i.e., “don’t like,” “get mad”) further amplified the potential for misresponse (Hughes, 2009).

Second, the factor loadings in the Hispanic sample for both of the invariant items “I share things I like with my friends,” and “I let others use my things,” were substantially higher than European Americans. This pattern extended to the majority of items on the instrument, suggesting that they may be less ambiguous for the Hispanic youth (i.e., more of its variance can be attributed to the latent dimension of prosocial behavior) and therefore for this particular group they served as better indicators of prosocial behavior. The Hispanic responses also tended to be less dispersed (i.e., less variance). Overall, these findings further substantiate concern regarding whether the study instrument, under different conditions, is yielding measures of the same prosocial indicators and stresses the importance of addressing measurement invariance to avoid potential systematic inflation or deflation of item response levels.

**Research Question QUAN 2: Group Comparisons Between European American and Hispanic Youth**

Overall, the findings are consistent with the previous literature linking various prosocial behavior to key outcomes of well-being (Aknin et al. 2013; Martela & Ryan, 2016; Shariff & Norenzayan 2007). The differences found between European American and Hispanic youth further emphasize the need to adopt a culturally-sensitive lens in the study of prosocial behavior. With sparse literature to draw on, one speculative explanation for the moderating role of ethnicity could be salience of *ethnic identity*. Broadly, ethnic identity refers to an individual’s sense of self in terms of membership in a particular ethnic group (Liebkind, 1992; Phinney,
There is wide variation in the importance attributed to one’s ethnic identity both within and between groups (Phinney & Alipuria, 1990; Roberts et al., 1999). For European American adolescents in the U.S., ethnicity is typically of low salience and sense of ethnic identity is often not strong (salience refers to the importance attributed to a person’s own ethnic background; Alba, 1990; Phinney, 1989; Roberts et al., 1999). However, for ethnic minority youth, particularly those experiencing lower status or power, exploration of ethnic identity and factors associated with minority group status usually leads to enhanced in-group identification which can further affirm the value and legitimacy of their group (Brown, 2000; Phinney, Horencyzk, & Liebkind, 2001).

Empirical studies with African American (Aries & Moorehead, 1989) and Hispanic (Phinney & Alipuria, 1990; Schwartz, Zamboanga, & Jarvis, 2007) adolescents have further purported this idea. Furthermore, the attachment to group membership is of particular importance during adolescence. Although changes in ethnic identity across development have not been studied widely, it has been established as a dynamic construct that evolves and changes in response to developmental and contextual factors (Marcia, Waterman, Matteson, Archer & Orlofsky, 1993). Thus, during identity development, a long regarded key developmental task for adolescents (Erikson, 1968), socialization experiences and increasing cognitive capacities may lead to changes in the internalization of culturally-related values (e.g., familism, simpatia, and respeto). Moreover, culturally-specific experiences (e.g., caregiving, language brokering) may serve as key factors in the negotiation of adolescent identity (Helms, Jernigan, & Mascher, 2005; Quintana, 2007; Phinney, 1990).

Further unpacking of ethnic identity salience also uncovers the theoretically meaningful ways in which it relates to both prosocial behavior and well-being during adolescence. Returning
to the ideas of *familism* and *simpatia* (see section entitled “Research Questions QUAN 1 and QUAN 2: Ethnic Identity, Prosocial Behavior, and Well-Being” for further description), evidence suggests that several of these cultural-specific values may not only show direct positive associations with prosocial behavior, but may foster increased opportunities to engage in helping behaviors (e.g., care giving, language brokering; East & Weisner, 2009; East, Weisner, & Slonim, 2009). Previous studies have also shown the direct role of strong sense of ethnic identity in measures of psychological well-being, including coping ability, mastery, self-esteem and optimism, as well as negative associations with measures of loneliness and depression (Smith, Walker, Fields, Brookins, & Seay, 1999; Yip and Fuligni, 2002). Thus, the same underlying mechanism of SDT may be at work; as adolescents needs for autonomy, competence and relatedness are fulfilled by way of their prosocial activities, a greater sense of well-being is elicited.

Given it is likely that minority group members (e.g., Hispanic youth) identify more strongly with their ethnicity than members of the dominant majority (e.g., European America), all three constructs of interest -- salience of ethnic identity, prosociality, and elements of well-being -- may be reinforcing one another in a positive loop. In other words, strong ties to ethnic group may offer affirmation and belonging that facilitates the internalization of positive values (e.g., familism, simpatico) and the performance of culturally-relevant prosocial behaviors. The fulfillment of needs for autonomy, competence and relatedness then leads to enhanced feelings of wellness. Faring better psychologically, may also then facilitate the internalization of positive cultural values (more generally) and perpetuation of prosocial acts (more specifically).

In summary, the notion of ethnicity is complex and heterogeneous and it remains to be understood how prosocial behavior, in particular, varies by ethnicity. Further study is needed to
determine the extent to which ethnic group attachment (and associated culture-specific values) may facilitate prosocial tendencies or promote subjective well-being. To do so, however, requires instrumentation that is sensitive to cultural and contextual variations. While the current study took the necessary steps to establish the measurement equivalence called for in research question QUAN 1, obtaining only partial invariance necessitates further discussion regarding the extent to which meaningful comparisons can be drawn for research question QUAN 2.

**Limitations and Directions for Future Research**

Although this study contributes to the measurement of prosocial behavior and its associations with well-being, several important limitations should be acknowledged. To begin, while the scale’s unidimensional structure was found to be invariant across groups, further study of the instrument is recommended. Removing one item and releasing parameter restrictions for three others (based on modification indices and expected change) are all data-driven procedures. As such, they are susceptible to capitalization on chance characteristics of the data (MacCallum, Roznowski, & Necowitz, 1992). Therefore, the model modifications applied to obtain partial measurement invariance should be replicated in order to ascertain the generalizability of the results. Moreover, these changes in indicators reduce the degree to which the item set may provide adequate coverage of known forms of prosocial behavior including willingness to share (“I share things with my friends,” and “I let others use my things”), comforting others (“I try to make people happier when they are sad”) and exercising emotional regulation (“When I have to do things I don’t like I get mad”). Thus, caution is urged when interpreting the loading or intercept differences of non-invariant items.

Second, further study of the generalizability of findings is needed to identify the extent to which PBS scores may be used across other ethnic subgroups. Whereas the instrument was
developed and validated on an Italian population (Pastorelli et al., 1997), this study represents a step toward generalizing the psychometric properties of scores among ethnic minorities. However, the current sample is still not able to discriminate ethnic groups beyond broad categories, potentially obscuring differences in factor structure and item bias among Hispanic subgroups. Beyond recognition of between-group differences, there is also a need for increasing attention directed towards within-group heterogeneity (e.g., level of acculturation, immigration status, language use) as well as the intersection of ethnic group membership with other social categories (e.g., gender, social class, religion, sexual orientation). Both the absence of evidence-based research accounting for heterogeneity between groups, as well as the frequent assumptions of within-group homogeneity may be compromising inferences made regarding validity and generalizability of the results. Even when measures demonstrate reasonable equivalence across groups, these overlooked differences could be influencing the functional relationship of scores produced by the predictor and/or criterion measures (Malcarne, Chavira, Fernandez, & Liu, 2006).

Moving forward, two steps can be taken to attain a more nuanced and rigorous approach in measurement practices. First, given that it is not possible to address all facets of prosocial behavior in a single instrument, it is important the selection choice be theoretically grounded and its purview more clearly defined. This should be followed by sound conceptual specification of the construct- what it is and what is not- prior to fitting it to explanatory models. Doing so breaks the bad habit of neglecting or overlooking the construct validation process by operating under the assumption that providing a label or a name is equivalent to defining a construct. Recently, Hall and colleagues (2016) proposed adopting an “inside-out” model in which an
insider’s perspective is considered to fully understand underrepresented ethnocultural populations).

Second, beyond providing evidence of its measurement equivalence and validity in the population of interest (e.g., Hughes & Dumont, 2002), it is time to re-examine the inventory of prosocial behaviors included in adolescent studies in order to ensure the construct, as it currently exists in the peer ecology, is fully captured. Again, without an “insiders” perspective (in this case, youth), it becomes difficult to gauge the degree to which the PBS (as well as other prosocial behavior scales) adequately measure the intended constructs (Haynes, Richard, & Kubany, 1995). Recognizing that the growing body of knowledge on social development in children and adolescents has largely been shaped by adult-centric frameworks that employ a deductive conceptual approach, the call has grown louder for innovative ways to take into account relevant viewpoints of youth themselves (Camino, 2000; Fox et al. 2010; Mirra, Garcia, & Morrell, 2016; Ozer, 2016). Participatory methodology has often been employed with qualitative research to deepen understanding of contextual meanings and better grasp the dynamic nature of social behaviors. Both of these efforts (i.e., the inclusion of more potential indicators and subscales of prosociality and the integration of youth perspectives when developing those indicators for measurement development) will improve measurement in studies aiming to address the conceptual equivalence and psychometric invariance of prosocial behavior across diverse groups.

**Strengths and Conclusions**

Despite the above limitations, this study provided an important initial understanding of comparative research using the PBS self-report instrument. An attempt was made to provide more detailed insight regarding how measurement invariance and item bias was addressed. This
is an important but frequently overlooked step of ethnic group comparative work that is needed in order to validate the use of the instrument (in this case, the PBS), as well as to make comparisons across distinct populations of youth (Van de Schoot, Lugtig, & Hox, 2012).

In a similar vein, focusing on the positive aspects of development, specifically adaptation and adjustment rather than adversity and maladjustment (Dodge, 2011; Guerra, Graham, & Tolan, 2011), is important as it provides opportunities to highlight significant variability in minority populations. This, in turn, allows for the identification of the multiple sources and pathways of adaptation, ultimately leading to more targeted programs and interventions. Only with valid and reliable measurement taking developmental and cultural factors into consideration can inferences be made with confidence, conceptual accuracy gained, appropriate interventions developed, and policies aiming to reduce mental health disparities implemented.

**Concluding Remarks and Next Steps**

In seeking to better understand the relationship between prosocial behavior and adolescent well-being, the current study suggests European American and Hispanic youth may benefit differently from engaging in prosocial behaviors, though this is stated with caution for two reasons. First, partial invariance was found for only a subset of the selected instrument’s items. Second, although the interaction between ethnicity and prosocial behavior was significant, the overall effect size was modest. However, the consistency across analyses (i.e., associations with individual well-being subscales) and the inability to explain away the interactions by adding other potentially explanatory effects such as age, gender and socioeconomic status, are noteworthy.

Establishing metric and functional equivalence are both important steps in resolving cross-cultural measurement issues, but other pieces of the puzzle remain unsolved. This includes
further examination of the construct validity associated with prosocial behavior (e.g., cross-cultural conceptual specification, item relevance in measurement tools, interpretative equivalence). In order to build on the current study’s findings, it may be necessary to utilize qualitative methods when pulling from the “measurement toolbox.” Quantitative methods have served the current study goals well, as both research questions QUAN 1 and QUAN 2 revolved around asking the what and the how questions: what is the relationship between prosocial behavior and well-being? How well does the PBS measure prosocial behavior? These, however, have led to follow-up why questions, such as, why might prosocial behavior look different among Hispanic youth? Or why were certain items identified as invariant? Qualitative methods may be more apt at answering these types of questions.
CHAPTER III

STUDY 2: A QUALITATIVE STUDY

Keeping up with America’s Diverse Youth:
Revisiting Prosocial Behavior through a Qualitative Lens

Abstract

Moving away from mainstream approaches that have largely ignored the perspectives of ethnic minority groups, researchers have begun exploring the integration of target populations into the various phases of construct and measurement validation. The present study took a two-pronged qualitative approach aimed at building and extending upon existing knowledge of prosocial behavior and enhancing the validity of an existing instrument. First, focus groups were employed to examine the operationalization of prosocial behavior from the youth perspective. Second, applying principles of action research, adolescent participants were tasked with evaluating the psychometric adequacy of the Prosocial Behavior Scale. The advantages and limitations of systematically combining a set of qualitative methods were explored and issues related to the meaning and measurement of prosocial behavior were discussed.
Qualitative Study Overview

Within the broader cross-cultural research arena, the positive adaptation of minority children and adolescents has emerged as a pressing area of research (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2004; Neblett, Rivas-Drake, & Umaña-Taylor, 2012; Rivas-Drake et al., 2014). A promising trend gaining traction is the identification of both \textit{promotive} factors in the context of normative development and \textit{protective} factors that buffer the association between adverse life experiences and developmental outcomes (Garcia Coll, Akerman, & Cicchetti, 2000). Falling in line with the recommendations to study adaptive aspects of culture, the current study sought to better understand how diverse youth operationalize prosocial behavior.

Employing a youth-centered inductive approach, eight focus groups were conducted over two sessions with the goal of addressing the following research questions:

**QUAL 1**

(a) How is prosocial behavior operationalized by diverse minority youth, and (b) to what extent is the current conceptualization of prosocial behavior generalizable to diverse minority youth?

**QUAL 2:**

To what extent is each item of the Prosocial Behavior Scale (PBS; Pastorelli, Barbaranelli, Cermak, Rozsa, & Caprara, 1997) \textit{comprehensible} (i.e., clearly worded and specific enough) and \textit{relevant} to the measurement of prosocial behavior?

In moving toward culturally-informed practices and increasing awareness of violated measurement assumptions, the use of participatory action research methods and in vivo coding analysis seemed particularly fitting; the former focuses on jointly producing knowledge and the latter places emphasis on the actual spoken words of participants. Both approaches are driven by
the target population, using local knowledge to inform current conceptualization of prosocial behavior and facilitate instrument adaptation.

Furthermore, taking on a collaborative approach with participants also aligned with this investigation’s transformative design goals. Inherent in this research paradigm is the need to define groups based on characteristics that are associated with greater discrimination or oppression (i.e., race/ethnicity, economic status, sex/gender, disability, sexual orientation). What separates the transformative framework from other mixed methods is the intentional focus on experiences of marginalized communities and the explicit goal of linking findings to actions intended to mitigate disparity (Sweetman, Badiee, & Crewswell, 2010). The following subsections review the extant literature that guided the selection of the current study’s youth collaborators. These individuals were recruited from within a community-academic partnership that was previously in order to support a school district in receivership. Additional details are also provided regarding the utility of the qualitative methods used in both supporting the transformative design and addressing the research questions QUAL 1 and QUAL 2.

**Transformative Paradigm: Selection of a Vulnerable Study Population**

Research on ethnic minority child and adolescent development increasingly reflects the need for greater consideration of unique ecological contexts and a clearer understanding of the distinct cultural resources and constraints offered within each one (David, Okazaki, & Giroux, 2014; Hall, Yip, & Zárate, 2016; Harrison, Wilson, Pine, Chan, & Buriel, 1990; Neblett, Rivas-Drake, & Umaña-Taylor, 2012). Despite the increased attention and notable efforts by funding agencies to prioritize underrepresented groups, progress remains slow and findings are not well synthesized. Thus, it becomes difficult to discern what specific gains have been made or identify areas of research ready for further exploration (Hall, Yip, & Zárate, 2016; Oh et al., 2015;
Shavers et al., 2005; Sue, 1999). But as one of the fastest-growing populations within the U.S., Latinos have recently stood out as a primary driving force behind the country’s projected population growth and compositional change. Predictions of a majority-minority America indicate that Latinos will account for 29% of the U.S. by 2060 (Colby & Ortman, 2015; Pew Research Center, 2017). Additionally, the nation’s Latino population has long been one of its youngest with about one-third, or 17.9 million, citizens under the age of 18 (Pew Research Center, 2017; Vespa, Armstrong, & Medina, 2018). The notably young profile of Latinos in the U.S. is concerning given the well-documented disparities that exist in outcomes associated with this ethnic group.

**Adversarial conditions of Hispanic youth.** Exposure to chronic stressors among Hispanic adolescents has also been associated with reports of greater sadness, depressive symptoms, suicidal ideation and suicidal attempts as compared to their non-Hispanic peers (CDC, 2017; Nock et al., 2013; Zayas, Lester, Cabassas, & Fortuna, 2005). Beyond the normative stress often associated with adolescence (e.g., family/home intergeneration conflict, school and peer-related difficulties, identity development), it is important to note the unique challenges Hispanic youth often face with acculturation to American “teen culture.” Factors that contribute to acculturative stress range from cultural and linguistic barriers, exposure to poverty, unsafe living conditions, and identification (or perceived identification) with a socially marginalized group (Córdova & Cervantes, 2010; Dawson & Panchanadeswaran, 2010; Kobus & Reyes, 2000; Rice & Dolgin, 2002).

**Widening economic disparities among youth.** Statistics on youth poverty, food insecurity and unemployment reveal they are often experienced unevenly. The majority of Hispanic children in the U.S. (61%) live in low-income families- conventionally defined as
incomes at or below 200% of the federal poverty threshold (or in essence, “meeting basic needs”). Approximately one in three Hispanic children live in poverty and one in eight live in deep poverty (family income less than half the poverty line; Wildsmith, Alvira-Hammond, & Guzman, 2016). Much like a domino effect, such social stratification is often associated with inequality in school systems as well and thus Hispanic youth are disproportionately represented among Title I schools, which often struggle to meet the needs of minority students and, subsequently, are fraught with inadequacies. In a recent national report, high-poverty/high-minority districts were found to spend up to 30% less per student than the low-poverty/low-minority districts within the same state. To put those numbers in perspective, a 20% increase in per-pupil spending a year for students identified as living in poverty, can lead to an additional year of completed education, 25% higher earnings, and a 20% reduction in the incidence of poverty in adulthood (Jackson, Johnson, & Persico, 2015).

Beyond disparities in education, additional factors such as familial disruption, limited access to systems of care (e.g., health), exposure to crime, segregation from larger societal structures, home ownership and mobility all contribute to the cycle of poverty and subject Latino youth to greater vulnerability of adverse outcomes throughout development (Sampson, 2001; Sampson, Morenoff, and Gannon-Rowley, 2002).

**Focus Groups in Action Research: Selection of Study Methods**

The current study demonstrated the utility of qualitative inquiry at both the early exploratory stage of establishing construct meaning (research question QUAL 1) as well as a conduit to improve measurement practices (research question QUAL 2) later in the research timeline.
**Research question QUAL 1.** The first eight focus group sessions were centered on exploring the meaning of prosocial behavior from the perspective of a diverse group of youth. Focus groups that facilitate the exploration of opinions and experiences of the population under study are described as taking a “phenomenological approach” (i.e., the goal is to understand the phenomenon of interest as the respondents see it; Byers, Zeller, & Byers, 2012; Calder, 1977; Pietkiewicz, & Smith, 2014). This strategy is particularly important to avoid the risk of ethnocentric assumptions that may threaten a researcher’s inferences when interpreting the experiences of others through the lens of their own cultural beliefs. In contrast, the phenomenological avenue of exploration allows for units of conceptualization to be discovered from the perspective of the target population and thus this approach better served the goals of research question QUAL 1.

Additionally, with a longstanding history in applied research and evaluation, focus groups are often praised for the “comfortable” and “nonthreatening” environment they offer to participants to discuss perceptions, exchange ideas, express attitudes and opinions, and identify “salient dimensions of complex social stimuli” (Krueger & Casey, 2015; Lunt & Livingstone, 1996, p. 81; Morgan & Scannell, 1998). In addition to empowering participants through solicitation of their voice and obtaining rich and diverse data from the interactive nature of dialogue, researchers are provided an opportunity to access unspoken social norms, values, expectations and local understandings (Bloor, Frankland, Thomas, & Robson, 2001; Nichols, 2002; Onwuegbuzie, Dickinson, Leech, & Zoran, 2009). To a considerable extent, focus groups methods are inherently culturally sensitive, tapping into hard-to-reach domains that highlight reactions, emotions, consensus, and dissent (Kitzinger, 1995; Marková, Linell, Grossen, & Salazar, 2007).
Research question QUAL 2. The second set of focus group sessions tackled research question QUAL 2 with an in-depth evaluation and commentary on the item validity of the PBS, an existing instrument used to measure the construct (Pastorelli, Barbaranelli, Cermak, Rozsa, & Caprara, 1997). Once again, focus group methodology involving moderator-facilitated discussions among multiple participants brought about exploration, however, increased attention was also directed towards applying principles of participatory action research. Participatory action research (PAR) has been defined as systematic investigation, with the collaboration of those who are conventionally the focus of study, to simultaneously promote empowerment and use local knowledge to increase relevance of the research process (Whyte, Greenwood, & Lazes, 1989; Minkler, 2000). The principles of PAR stem from “the understanding that people…hold deep knowledge about their lives and experiences, and should help shape the questions, [and] frame the interpretations [of research]” (Torre & Fine, 2006, p. 458). This is especially relevant when considering the “missing voice” of adolescents in general, and of minority youth in particular, in the traditional research process. Despite the nature and extent of child and adolescent involvement in their own development, research largely remains a domain in which their “competence and ability to participate is undervalued.” (Hart, 1992, p.17). Concern for this issue was voiced almost 20 years ago, yet the literature on the social development of children and adolescents has continued to largely be shaped by adult frameworks employing a deductive conceptual approach (Curtin, 2001; Petr, 1992; Wong, Zimmerman, & Parker, 2010). Moreover, the bulk of findings are drawn from studies focused on mainstream children and adolescents, with far less consideration provided to how these developmental changes may unfold differently in marginalized groups. This gives rise to two areas of concern. First, given the major tenets of the positive youth development framework rest on a desire to empower all youth (Benson et al.,
2006), it is important to develop more inclusive practices that more accurately capture the unique perspectives of diverse adolescents (Betancourt, 2015; Camino, 2000; Cauce et al., 2002; Kornbluh, Ozer, Allen, & Kirshner, 2015). Second, without including an “insiders” perspective (i.e., adolescent stakeholders), it is difficult to gauge the degree to which instruments adequately measure their intended constructs (and as a result, there are significant implications for the validity of conclusions drawn across studies; Haynes, Richard, & Kubany, 1995; Lucero et al., 2016).

The Present Study

Following the recommendations of Kitzinger (1995), sixteen focus group sessions were used to develop a deeper understanding of prosocial behavior from the subjective experience of diverse adolescent youth by: 1) highlighting the respondents’ attitudes, priorities, language, and framework of understanding; 2) encouraging research participants to develop their own analysis of common experiences; 3) encouraging a variety of communication from participants; 4) helping to identify group norms and cultural values; and 5) facilitating the expression of ideas and experiences that may have been left underdeveloped in other forms of measurement (e.g., interview, survey).

In the second part of this study, the PBS was placed under scrutiny to reveal its potential strengths and limitations (as determined by the target audience). Specifically, the comprehensibility (i.e., extent to which the items are understood as intended) and relevance (i.e., appropriateness of the item for the target construct and function of measurement) were examined (Messick, 1993). The consideration of both aspects is important when examining whether an instrument can be generalized to a new population.
Method

Study Site

The study site was Holyoke, MA, a city that includes a large population of working-class immigrants (similar to Durham, NC in the quantitative study). In April 2015, the Massachusetts Board of Elementary and Secondary Education (BESE) declared Holyoke Public Schools (HPS) as chronically underperforming (Level 5) and placed the district under receivership. Among the reasons cited were 20% of students per year receiving out-of-school suspensions (more than 5 times higher than the state), 29% of students being chronically absent, and a 60.2% graduation rate (lowest in the state). Within the report, it was also stated that “the district does not have a coordinated system to assess and identify students’ social/emotional challenges and needs in order to provide comprehensive supports to address those needs” (Zrike & Chester, 2015, p. 11). In response to the district’s announcement of planned efforts to “reengage disconnected or at-risk youth,” an initial partnership was established between UMass Amherst and a public K-8 school (Zrike & Chester, 2015, p. 19). This particular school served one of the poorest communities in Massachusetts (85% of the school’s families live in poverty and 25% of the students are homeless or living in temporary housing). The current study took place approximately one year after the partnership had been established.

Background on Research-Practice Partnership

The goal of the research-practice partnership was to improve upon the school’s existing social emotional instruction, adapting the methods of delivery and content of the curriculum to reflect increased cultural understanding of the target audience. As part of a district-wide initiative being implemented in K-8 buildings to improve school-wide climate and promote social/emotional learning (SEL), the research-based, comprehensive Second Step program had
been incorporated for each grade into a twice-weekly class. This regularly scheduled course included interactive activities and guided discussion of real-world scenarios, all of which were designed to promote social skills and behaviors aligned with the primary topics of the focus groups. Since the beginning of the 2016-2017 academic year, the author of this dissertation (and lead facilitator of the current focus group study) worked alongside teachers and administration to adapt the Second Step curriculum in order to create a more developmentally appropriate and culturally sensitive program for students in the 6th and 7th grade classrooms. As a regular co-instructor of the course, students had come to expect her presence in the classroom and with weekly lesson plans covering similarly-themed material, students became more comfortable discussing the subject matter of the current focus groups.

Participants

Focus group participants included students enrolled in 6th and 7th grades (aged 11-15). The school minority enrollment was 85% of the student body (predominantly Hispanic or biracial). The eight focus groups aimed to be demographically representative of the school population (i.e., even ratio of boys to girls, 3:1 ratio of Hispanic or biracial students to White students; see Table 13 for participant demographic information). Previous literature stressed the importance of creating conditions that allow participants to feel comfortable expressing individual views (Liamputtong, 2011). Homogeneity in gender, age and ethnicity within the focus group is often recommended in order to increase participant compatibility and increase comfort levels with one another. In doing so, participants are often willing to speak more openly (Liamputtong, 2011; Morgan & Scannell, 1998). Moreover, it has been suggested that there is a heightened influence of gender on responses among Hispanic children and adolescents due to prominence of traditional gender roles: machismo (a man carries himself with respect,
responsibility and honor) and *marianismo* (a woman is self-sacrificing and virtuous). It is still unclear, however, how these roles may influence early socialization and behavioral development in Hispanic boys and girls (Bem, 1981; Stein et al., 2014; Vasquez, 2014).

**Participant Recruitment**

Sixty-eight students were recruited from the *Second Step* class periods. The co-instructors for the class (lead facilitator, classroom teacher, and school guidance counselor) invited select students to participate. Typically, when choosing individual students to participate in a class activity during regular instruction, names were drawn out of a box at random. The same procedure was used to identify the subgroups of students invited to participate in the focus groups. For each class, names continued to be drawn until an approximately equal number of male and female students (33 and 35, respectively) were pulled that accurately represented the demographic composition of the school. All parents/guardians of selected students received copies of the consent letter in both English and Spanish and passive consent was obtained (i.e., the parent/guardian would respond, or send back the consent, only if they did not want their child to participate; Ellickson & Hawes, 1989). Additionally, a member of the research team reviewed the child assent form with each invited student participant reminding them that the focus group would take place during their regularly scheduled *Second Step* course and emphasizing that the activity was optional- students could choose to participate or decline to partake in the discussions. No parent/guardian declined consent and written assent was obtained from all students invited to partake in the study. A copy of all materials reviewed and approved by the University of Massachusetts Amherst Human Research Protection Office (an administrative hub for the Human Research Protection Program and Institutional Review Board) can be found in Appendix B.
Procedure

Subjects participated in eight focus groups that each met twice over the course of two weeks (sixteen focus group meetings in total). In the first eight sessions, participants were asked to define and describe prosocial behavior. In the second set of sessions, participants were provided with a prosocial measure, the PBS, to review and evaluate item by item (see Figure 3, for demographic/topic breakdown of each focus group session).

Each student participant was assigned a number to protect his/her identity (e.g., “P1” for participant #1, “P2” for participant #2, etc.). These numbers were worn on visible nametags in order to allow for easy identification by the research assistant taking notes to: 1) capture relevant non-verbal communication of transcribed data and 2) provide additional insight for demographic group comparisons (e.g., Hispanic/biracial vs. Non-Hispanic/biracial youth answers). The facilitator also utilized flip charts and/or whiteboards throughout the conversations to create lists, capture “big ideas,” and to summarize shared terminology. All focus group sessions were audio recorded and transcribed to text with the addition of the supplemental notes taken during the sessions.

It is important to note that prior to conducting the focus groups, all participants were asked to complete a brief information sheet which included the question “What is prosocial behavior?” The purpose of asking the question ahead of time was to assess their familiarity and understanding of the term (given their exposure to SEL-themed content throughout the year). Responses ranged from “being a ‘pro’ at social media” to “someone who likes being social.” Of the 67 submitted answers, only 12% (8 students) included any reference to helping, sharing, or caring and 18% actually described negative behaviors (e.g., “being disrespectful,” “doing bad
behaviors”). This suggested the selected participants had limited familiarity with the term “prosocial” behavior.

**Discussion guide for questions.** The relaxed structure of focus group discussions allowed for participants to raise and shift topics, agree and disagree, interrupt other speakers, and laugh or fall silent, all of which mimic ordinary conversation. To assist in the navigation of discourse, a discussion guide is often used during focus groups. This guide includes select questions or discussion points that are designed to simultaneously elicit compelling responses and steer commentary towards meaningful areas of discussion (Greenbaum, 2000; Krueger, 2005; Myers & Macnaghten, 1999). In the current study, focus groups were based on a semi-structured guide of 6-8 focal questions (with follow-up prompts) per session (see Appendix C, for discussion guide). The focal questions were also listed on a visual aid at the front of the classroom in order to assist in keeping the conversation focused on a particular topic/question.

**Focus group sessions.** Student participants attended their regularly scheduled *Second Step* class period. Before beginning the focus group session, the lead facilitator announced refreshments were available for the participants to help themselves. Students were then informed that similar to previous classes, “today’s conversation” was focused on social interactions among peers. The study project goals and overall structure of the focus groups were reviewed (see Appendix D for Focus Group Script). At that time, participants were given the choice to leave the session prior to any questions being asked. All participants chose to continue. The lead facilitator then asked each student to briefly introduce him/herself (or simply remind peers of his/her name for those that had interacted more frequently). The overall “structure” and ground rules for the discussion were reviewed (see Appendix E for Focus Group Ground Rules). An opportunity to ask any clarifying questions was offered. Once the focus group began and
questions related to prosocial behavior were asked, student participants were probed to give specific details of positive social behaviors in different contexts (at school, at home, online, during recreational sports, etc.). The lead facilitator and research assistant asked follow-up questions when additional clarification was needed for broad statements. After approximately 45 minutes, students were thanked for their time and dismissed from the session.

**Data Analysis Approach**

All data were transcribed, coded and thematically categorized using *NVivo Version 11* (QSR International, 2016), a computer-assisted qualitative data analysis software. In vivo coding and a constant comparative method were used for analysis (Glaser & Strauss, 1967; Ragin, 2014). Given that the act of labeling reflects one’s own experience, line by line in vivo coding was used to name, organize and refine codes (see Figure 5, for sample use of descriptor, or “coding stripe,” by researcher). This was an intentional choice made to better capture the essence of dialogue. Drawing from the actual words or phrases of participants helped to navigate the taxonomies and domain analysis by providing opportunity to incorporate the nuances in conversation (Bernard, Wutich, & Ryan, 2017; see Table 14, for sample in vivo coding). Then, using NVivo’s hierarchical tree structure, any identified concepts that were found to be interrelated were reclassified into a series of categories and related subcategories (see Figure 6, for concept map depicting sample categorization of two forms of prosocial behavior). The research team relied on memo creation to track the relationships between categories, perform constant concept comparison and practice iterative reflection with previously coded items. Coding reliability was estimated and was deemed sufficient using both proportion agreement (94% agreement or higher on all categories) and the *Kappa* coefficient (.92; used as an index of interrater agreement in qualitative research).
Results

The first eight focus group sessions opened with the question, “What is a positive social behavior that benefits someone else?” In five of the eight groups, participants asked for follow-up clarification. Thus, when necessary, students were told to describe the actions of someone they viewed positively. The term “benefit” was also elaborated on by telling participants to consider whether the behaviors that came to mind made something “easier,” “more enjoyable,” or “more positive” for the recipient. The following sections take a closer look at the emergent themes in operationalizing and evaluating prosocial behavior from the perspective of the youth participants.

Research Question QUAL 1a: Operationalization of Prosocial Behavior

Utilizing an inductive approach (i.e., codes were identified as they emerged from the data), a team of 10 researchers generated a tentative codebook that was aligned with the research questions. Three major stages characterize constant comparison analysis: open coding (data are chunked into small units and a descriptor or code is added to each unit), axial coding (all codes are grouped into categories) and selective coding (one or more themes are developed to express the content of the groups; Strauss & Corbin, 1998; see visual model of coding process in Figure 4). This phenomenological approach to constant comparative analysis produced a total of 30 types of prosocial behaviors, each one described by the participants as it was perceived in their social world. Table 15 provides a full list of the categories, a description of the types of prosocial behaviors falling under each label, and a sample of illustrative statements drawn from the focus group transcripts.

To address the first part of research question QUAL 1, frequency counts were examined for similarities and differences across focus group sessions, as well as for notable patterns in
gender, grade or ethnicity. Frequency counts represent the number of times a participant expressed a sentiment reflective of the coded prosocial behavior. Although frequency of mention within a focus group does not represent how frequently a behavior is actually performed, for the purposes of the current study, it served as an indicator of how salient the behavior was to the participants. The consistency across groups—i.e., the top ten prosocial behaviors were independently generated in all eight of the first focus group sessions—provided further support of this assumption.

Upon closer examination of the behaviors that were most frequently endorsed by participants, three interesting trends emerged. First, several of the categories were conceptually related in that they involved emotion regulation strategies (Bergin, Talley, & Hamer, 2003). Second, across all eight focus groups, greater emphasis was consistently placed on the inhibition of negative behaviors as opposed to the enactment of positive behaviors. Finally, the importance of identifying characteristics of the helper and recipient within a prosocial interaction was consistently emphasized.

**Use of emotion-related self-regulation strategies.** Broadly speaking, review of the 30 identified prosocial behaviors suggested that minority adolescents were recognizing strengths associated with appraisal and coping styles in emotion regulation. Eisenberg, Hofer, and Vaughan (2007) defined *emotion-related self-regulation* as “processes used to manage and change if, when, and how (e.g., how intensely) one experiences emotions and emotion-related motivational and physiological states, as well as how emotions are expressed behaviorally” (p. 288). Several of the descriptions used to identify the categories or subcategories stemmed from descriptions of peers who demonstrated downregulating of their negative emotions or impulse control (e.g., “doesn’t blow up all the time,” “knows how to keep a secret,” “ignores someone
when they are gossiping or saying something mean,” “doesn’t just say anything on people’s [online] posts”). Moreover, an additional subset of categories described assisting others in regulating their emotional states (e.g., “good at calming people down,” “helps them stop fighting” “distracts me when I’m upset”). The use of specific emotion regulation strategies including attentional deployment, cognitive reappraisal and response modulation were often evident in the personal anecdotes participants shared and/or the discussions that unfolded afterwards (see Gross, 2015 for descriptions of emotion regulation strategies). For instance, multiple participants described the utility of attentional deployment when a peer successfully shifted their focus away from negative circumstances (e.g., “…she just made me forget about it…it was all about getting ready for the soccer finals instead of thinking about moving to the [homeless] shelter”). Being able to “distract” someone from a situation causing distress was repeatedly mentioned as a difficult undertaking for youth but also recognized as highly appreciated by the recipient when done successfully. Similarly, individuals who demonstrated high levels of cognitive appraisal (by focusing attention on positive aspects of a situation) or who were able to maintain composure when provoked, were also highly regarded by their peers. Thus, employing emotion regulation strategies when triggered by a stressor seemed to be at the core of several of the observed interrelations.

**Performing positive behaviors vs. avoiding negative behaviors.** When asked to identify behaviors that benefit others, the initial lists generated from the open coding process included 28 behaviors that were inhibitory in nature and 17 that described performing a positive behavior. In other words, participants appeared to have an easier time describing the attributes or actions that are not associated with a “positive social person” (e.g., “not gossiping,” “not judging,” “not acting shady,” “not getting angry when they lose,” “not always being in a bad
mood”) than ones that reflect enactment of the target construct (e.g., “being kind,” “being funny”). Further emphasizing this point was the recognition that the longest pauses in conversation for six of the eight groups (ranging from 21 to 42 seconds) came after the moderator or facilitator asked participants to try and provide examples of what prosocial individuals were actually doing (as opposed to what they were not doing) that reflected prosociality. Several students made explicit statements regarding the difficulty in shifting away from references illustrating the avoidance of negative behaviors.

**Male (6th grade):** Like good things? I don’t know...they just don’t do bad things, I guess...maybe? I don’t know. This is hard. I can’t think of anything. Like I would know it if I saw it...I think...but I can’t think of it now. Like, I know who are the kids who don’t do those bad things so I know they are good peeps [people], ya’ know?

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**Female (7th grade):** It’s so much harder trying to think of it this way. I don’t know...okay, maybe like someone who doesn’t tell people’s secrets...wait, no! that’s still wrong. Ugh.

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Along similar lines, it became increasingly apparent that the social emotional “vocabulary bank” participants were accessing to share their thoughts and opinions was disproportionately weighted with negatively valenced emotions and/or antisocial behaviors (e.g., “doesn’t just blow up with anger,” “not aggressive”). This lack of familiarity with positive descriptors often led to miscommunication. Depending on the focus group, there were six to twelve instances in each session in which a participant would make a statement regarding a prosocial behavior, but upon elaborating with an example or being probed with additional questions, it would become evident that he/she may have an inaccurate understanding of what the word actually means. For instance, one participant described someone with “integration” but later agreed that she was actually referring to “integrity.” Another participant used “sympathy” to identify someone who was “sensitive” in the sense of being “thin-skinned” when it came to
insults. Table 17 shows additional examples of some of the misused terminology that unfolded throughout the discussions.

Specificity of helper and recipient. The phrase “it depends who” was repeated 41 times and “it depends why” was repeated 62 times during the focus group sessions. While discussing 21 of the 30 identified prosocial behaviors, participants debated the perceived cost and relative meaningfulness of different acts when considering who in each situation was the helper, who was the intended beneficiary, and why the act was most likely being performed (i.e., the helper’s motivation). There was general consensus that while behaviors performed by close friends or family were considered lower cost, they were also perceived as more meaningful than those performed by an acquaintance or stranger (e.g., inviting a close friend to hang out vs. inviting someone with whom you have had limited interactions). Conversely, willingness to act prosocially towards someone with whom there is no preexisting relationship was perceived as more costly (most of the time), but also more likely to be questioned with regard to intention and sincerity (e.g., “I’m not saying it wasn’t nice of him. Obviously it was. I’m just saying I don’t get why he did it because you guys aren’t even close). Certain behaviors did however appear to be exempt from this skepticism. For example, there was unanimous agreement that humor is a prosocial behavior that is always well-received, regardless of the nature of the relationship.

Male (7th grade): No, it don’t [doesn’t] matter…if you’re a funny dude, everyone likes you. No one is going to be like, oh I think he’s just funny because he wants something…that doesn’t even make sense.

Female #1 (6th grade): Even if I hated a teacher and then one day they make me laugh…I’m usually like, damn, you’re actually alright…it’s hard to not to like them anymore.

Similarly, serving as a translator for English language learners (ELL) during classroom instruction was highly regarded by everyone who discussed it and described as another behavior
that rarely elicited questioning of motives. This may be in part due to the unique demographics of the study site. With 29% of students classified as English Language Learners (ELLs), participants seemed well aware of the high-need to assist with translations, and those that voluntarily did so were consistently recognized positively by their peers for their efforts.

*Male #1 (6th grade):* I really like to do it [translate]. Like Miss. [teacher name] will say, ‘oh I can find someone else [to translate] today if you want?’ but I’ll be like, ‘no Miss., I want to.’

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*Male #1 (7th grade):* I mean, it’s just cool because our [basketball] games have gotten so much better now that [name of translating student] taught us how to say ‘pass’ and ‘I’m open’ in Spanish…it’s not a big deal but it just made us feel more like a team when everyone could talk to each other.

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*Female #1 (6th grade):* She’s really good at it [translating] too…just really patient about it. I just think it’s awesome that she just does it. It would totally suck for [name of ELL student] if she didn’t have [name of translating student]. It’s gotta be lonely if you can’t understand what everyone’s saying and people are talking all the time around you. That has to suck.

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**Group differences.** One additional advantage of focus group methodology is the fact that findings that are not central to the original research question, but still informative in their own right, may emerge. For example, female participants often relied on anecdotes and personal experiences to relay their thoughts (e.g., “there was this one time that me and my friend…’), while males opted for adjective phrases (e.g., “he is a fair game player,” “it’s like a chill attitude,” “he’s my funny friend”). Seventh grade students tended to interrupt one another during open discussions more so than their 6th grade counterparts. And Hispanic and biracial youth referenced adults in their lives (e.g., parents, older siblings, extended family, teachers, etc.) more frequently than non-Hispanic participants (32% vs. 18%).

**Research Question QUAL 1b: Generalization of Prosocial Behavior**

Shifting to the second part of the research question QUAL 1, two themes emerged when considering the extent to which the “research expert-derived” definition of prosocial behavior
generalized to minority adolescents: the importance of discriminating between prosocial behaviors performed face-to-face versus online and the potential omission of relevant prosocial behaviors from current measurement instruments (see Figure 7, for concept map of emergent themes in FG 1-8).

**In-person vs. online.** Few studies have sought to expand on the repertoire of prosocial behaviors pertinent to adolescent peer interactions as they unfold on social media forums and through electronic communication (e.g., text messages, chatrooms). With the changes in technology and the upsurge of social media reshaping interpersonal communication, it seems plausible that current measurement could be outdated. For example, students described how the manner in which one maintains a social media presence is often a highly regarded indicator of a prosocial person:

**Female (7th grade):** “Yea, like it’s really hard to know how much is too much. If you’re snapping everyday [using the Snapchat mobile app] and putting up pictures on Insta [using the Instagram mobile app] to the point where it starts annoying people, that’s not cool. But if you’re not posting anything, it also feels like you probably have something to hide and people will think you’re shady…yea, it’s definitely hard to know how much is too much.

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**Male (6th grade):** Well it’s kinda hard because if you put up something and someone else ‘likes it,’ then it feels like you have to do the same thing for them when they post…even if you don’t like their stuff. And if you don’t do that, then they like automatically assume you’re taking a shot at them.

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**Female (6th grade):** That’s [maintaining a social media presence] a big one, for sure. You can definitely tell who’s really supported by their friends by the comments they make or how many times they ‘like’ you online. If I’m having a bad day and I see that [name of student] gave me a shoutout on Facebook or liked one of my pics, it definitely gives me the feels [makes me feel the love/support].

**Facilitator:** So, going back to what [name of student participant] said, when you’re having a bad day would you prefer a “like” on a post or a someone texting or calling to ask if you’re alright?

**Female (6th grade):** “Uh, well, I don’t know…it depends… I mean, no [giggling]… well, let’s see…um, if I’m going to be real, I want the ‘likes.’ Everybody sees it and it’s like they know [name of student] obviously has my back so that makes me feel good.
Along similar lines, focus group participants also described the effects of online disinhibition and the alleviation of barriers to performing prosocial acts when they are shifted to a mobile phone/online environment:

**Male (7th grade):** I would definitely have the conversation through text. Like, I know that might seem cold but it’s better than me just bouncing [leaving] if we are in person and I get uncomfortable or don’t know what to say. I hate when I like…[pause] …like I don’t know what to say to make someone feel better. So at least if I’m texting, I can send a gif or something. But if you’re in front of me and you’re being extra [overly emotional], it’s just not a good situation.

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**Female (6th grade):** It’s like I don’t know if we would normally be friends but I do feel bad that like, nobody likes her. And like, I can’t really hang with her at school cuz no one else wants to but like I do feel bad so I’ll like try to send her snaps [pictures/videos/messages on the mobile app Snapchat] or hit her up on Kik [group messaging service].

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**Male (6th grade):** I mean, yea, I think most guys wouldn’t step in if it [bullying] was happening on the basketball court…probably because things would blow up. So, yea, I agree. But like people don’t hold on to things that happen online as much…I think if I saw someone that was nonstop being an a**[profanity] while we were playing Legends [online video game], I would message like, yo, stop, it’s getting old. But no, I probably wouldn’t say anything on the court.

**Potential omission of relevant behaviors.** The most frequently referenced behaviors emerging from the discussions on prosocial behavior are listed in rank order in Table 16. While, helping, sharing, and caring (i.e., providing emotional support) are commonly included on the instruments available to researchers, acting humorous, standing up for others, being complimentary or encouraging, expressing gratitude or displaying positive affect are a few of a longer list not explicitly captured in most measurement instruments. Conversely, “volunteering,” which was among the lowest-ranking items is one that does appear regularly (e.g., Hardy, Dollahite, Johnson & Christensen, 2015). The restricted range of prosocial behaviors addressed in current research efforts may be limiting our understanding of the development of socially significant prosocial behaviors among diverse populations.
Research Question QUAL 2: Evaluation of the Prosocial Behavior Scale

The second set of focus group discussions (9-16) examined the comprehensibility and relevance of prosocial statements on the PBS scale (the nine items are written as declarative statements as opposed to using question phrasing). Each statement was presented one at a time to participants on a flipchart or a classroom whiteboard. There was an opportunity for participants to read silently first, followed by the moderator or research assistant reading the item aloud. At that point, participants were asked to discuss among themselves what types of behaviors they believed the specific statement was describing (to examine comprehensibility) and whether or not the attribute or behavior being measured was an example of prosociality (to establish relevance). A summary of the key findings regarding items identified as problematic are listed below (see Figure 7, for concept map of emergent themes in FG 9-16).

**Item 1: I try to make people happier when they are sad.** When generating a list of what comes to mind when gauging whether or not somebody is prosocial, emotional support was ranked number three. However, in reviewing the first item of the PBS, participants emphasized that depending on how emotional support is provided, its importance may wane, or even have the reverse effect. In particular, the phrase “cheer up” (which was discussed in four of the eight focus groups) appeared to elicit mixed reactions. Debate emerged as to whether or not the act of trying to “cheer up” someone (which was often described as “acting like a fool” or “being obnoxious for laughs”) may actually create a sense of emotional dismissal and perhaps unintentionally invalidate the recipient’s circumstances or exacerbate feelings of distress. In three focus groups, participants shared personal stories of how attempts to uplift someone in a distressed state was a particularly negative experience when the recipient does not believe their circumstances are within their control (e.g., one participant described mourning the death of a
Another participant shared the difficulty adjusting to an unexpected move due to housing instability. Although there was general consensus that successfully making someone feel better would be perceived as prosocial, the word “happier” seemed to be causing concern. Participants suggested that the state of happiness may not be the right “end goal” as sometimes individuals experiencing hardship want and/or need to process the negative experience and are often seeking companionship or support while doing so, without an expectation of a positive mood shift. A suggestion proposed by one participant to change the phrasing to “I try to make people feel better” seemed to be well-received by the rest of the group.

**Male #1 (6th grade):** It’s kind of like when Ms. [teacher’s name] says, ‘if you wear a smile on the outside, it will make you smile on the inside,”...I want to be like, ‘yea...no. that’s not how it works’

**Male #2: (6th grade):** She needs to get woke [become more aware].

**Male #1: (6th grade):** Right?! [Laughing]. I mean I think if I asked someone to get my mind off of what was going on, then yea, if they crack jokes or whatever, I wouldn’t mind. But if I’m like crying and you’re acting a fool because you think that will make me happier, don’t be surprised if I come at you [become aggressive].

**Male #3: (6th grade):** I agree. My problems are real. Candy and hugs aren’t helping me out homie.

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**Male #1: (7th grade):** When I hear someone say ‘cheer up’ to me, I feel like they are saying, can’t you just hide your problems better?

**Male #2 (7th grade):** Yea, it’s not like I’m trying not to be happy....and actually, sometimes you can make me feel better but I don’t have to be bouncing around happy to show it. I can be less sad but not look like I’m super happy. And that’s okay.

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**Female #1: (6th grade):** “Cheer up? What are you? Santa Claus? [laughing]...No seriously though...it just feels like if there’s sh**[profanity] going down and someone does the whole ‘it’s going to be okay’...it’s like...ugh [shakes fists in frustration]. I just want to smack them.

**Female #2 (6th grade):** Yea, but if you’re in a bad mood and [names a friend] comes up and is like ‘yo, check out this meme, ‘you wouldn’t be like ’go away.’

**Female #1: (6th grade):** “True. But that’s because I actually like [student name].

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Overall, however, there did not seem to be any confusion regarding the general purpose of this item: “to lift someone’s spirits up.” The majority (89%) agreed that this form of emotional
support was an important indicator of prosociality. Therefore the item was considered comprehensible, with further study needed regarding its relevance to determine to what extent the manner in which it is worded may be unintentionally “triggering” and/or eliciting unintentional negative feelings to the reader.

**Item 3: When I have to do things I don’t like, I get mad.** The negatively-worded and reverse-coded structure of this item created a lot of confusion. Participants re-read the item multiple times and still struggled to understand exactly what was being asked.

**Male #1 (6th grade):** So, like, it’s saying that you don’t get pissed off when someone asks you do something?

**Male #2 (6th grade):** Wait, no, I think it’s that you do get mad.

**Male #1 (6th grade):** Huh? How does that make sense?

**Male #2 (6th grade):** Wait, let me read it again... [re-reads question] ...so like if I say [name] you gotta help me move on Sunday and you were gonna go play basketball on Sunday, then you wouldn’t get mad?

**Male #3 (6th grade):** No dude. It’s the opposite. You do get mad.

**Male #2 (6th grade):** This is so confusing. If you don’t want to do something, then yea, why wouldn’t you get mad? What’s the point in asking that?

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**Male (7th grade):** I still don’t get it. Like we have to come to school and most of us don’t want to... but are you asking are we mad about it?

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**Female #1 (7th grade):** I think it means that the person is still happy even if they don’t get their way.

**Female #2 (7th grade):** Wait what? How? It literally says they get mad.

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Although in the lead-up to discussion on this item, students agreed that displaying emotional regulation was valued in their interactions with peers, from their perspective, this item was not necessarily capturing that. The examples they offered were almost always situated in times of conflict:

**Male #1 (6th grade):** He’ll [student name] just sit there. Like a cold rock [“stone cold”]. And he won’t say anything back. And they’ll just keep throwing shade [insults] at him and he’s just mad cool [calm]...I’ll even get mad for him and he’ll tell me to chill out.

**Male #2 (6th grade):** [jokingly] You need to be more like [student name].

**Male #1 (6th grade):** I know man! [laughing].
Female #1 (7th grade) ...and whenever I get a text from him that pisses me off, I’m like okay, I’m not going to respond right now because ain’t nobody going to like what I’ve gotta say right now. So I’ll wait and like try to go do something else. And then when I reread it, I can usually be a lot more calm.

Female #2 (7th grade): Damn...I don’t know how you do that. That’s so hard. My mom always tells me to do that when I’m mad but I just like...can’t.

Participants discussed this item longer than any other item on the scale (ranged from 7 minutes to 11 minutes within the 45 minute focus group). With the lack of consensus on what the purpose of the statement was and the difficulty drawing connections to the broader construct of prosocial behavior, this item was considered neither comprehensible, nor relevant.

**Item 5: I share things.** By far, the most pronounced gender difference across all the questions was observed in the responses to item 5. Without exception, when asked what type of “things” came to mind when reading this question, all 33 males provided material examples (e.g., food, sports equipment, class supplies, video games, etc.), while all 35 females described disclosure of personal information (e.g., sharing the name of a crush, interests or hobbies, secrets or gossip).

Facilitator: Okay, so can you give me some examples?
Male #1 (7th grade): Snacks!
Male #2 (7th grade): Games!
Male #3 (7th grade): Candy!
Male #4 (7th grade): Maybe like they don’t hog the ball while we’re at recess.
Male #5 (7th grade): Yea, or if like we’re in class and I forgot my stuff, they’ll give me one of their pencils or some paper.

Female#1 (6th grade): I think it means like sharing their trust, right?
Facilitator: Can you tell me a little more what you mean by that?
Female#1 (6th grade): Uh, I don’t know. Like sharing secrets, I guess.
Female #2 (6th grade): Yea, or like passwords and stuff because you really trust them and don’t think they’re going to screw you over.
Female #3 (6th grade): Maybe telling them things about what’s going on at home when things are bad.
Female #3 (6th grade): I thought it was like ‘would I tell this person if I liked a guy or no?’
Within each focus group, there was full agreement regarding the purpose of the statement (i.e., sharing material items vs. self-disclosure) but given the gender difference that emerged in the item interpretation, it was not regarded as comprehensible. When discussing the importance of sharing in both cases, however participants were 100% in agreement that this was an important indicator of prosocial behavior.

**Item 6: I help others with their homework.** Participants did not spend much time discussing possible interpretations of this statement—upon seeing it, one individual exclaimed, “Finally! An easy one!” There was a high degree of endorsement for this item as participants agreed that willingness to provide academic assistance was important to include. They did however, indicate that the wording may be too specific in restricting it to “homework.” There appeared to be greater opportunity to help one another during school as compared to after school:

*Male #1 (7th grade)*: So, it’s like when [name of teacher] tells us that if you’re finished the worksheet you can get on the laptop for free time or you can help someone who’s not done…it’s always the same selfish people who don’t care and just get on the laptop. And then the same awesome people who are just good people and will like try to help you out so you can get done faster too.

*Male (6th grade)*: Miss, to be honest, usually if I’m helping someone out over text or online...especially if it’s homework...then I’m just giving them the answers to the homework. But if we’re actually in class and [name of teacher] is like can you help ‘so in so’ out, I’ll be like yea, for sure and I’ll actually show them how to do it.

*Female (7th grade)*: There are like really smart kids in that class. And that class is insanely hard. Like for real. It’s mad hard [really hard]. And they [“smart students”] always get done first. So you can tell who’s like really caring when they’re like, ‘hey, you want me to help you out so you can get done faster? Because then if you’re both done, both of you can have fun.’

Additionally, students suggested that translating during class instruction may be equally important with regard to providing academic assistance. Therefore, based on the participant feedback, this item was considered comprehensible with recommendations to improve its
relevance by not limiting the "help" to homework and potentially considering including serving as a translator as a subcomponent or additional item.

**Item 7: I let others use my things.** The meaning of this item appeared straightforward to the participants- 96% of the references to this item described it as allowing others to temporarily or permanently use their personal belongings. But similar to “I share things,” there was quite a range of how participants interpreted the word “things.” No patterns were detected specifically within groups (e.g., male vs. female or 6th grade vs. 7th grade), but across all eight discussions, distinctions were made between the higher cost associated with sharing more valuable items (e.g., phone, laptop, video games), as compared to less valuable items (e.g., school supplies, food, etc.). Additionally, participants emphasized their concern that whether someone allows others to use their personal belongings is not always indicative of their willingness to share or be generous. Most students expressed being under strict orders from their parents *not* to hand over their valuables. So even in cases in which they themselves are comfortable doing so, they are hesitant to make a choice that does not adhere to their parents’ expectations. And if they ultimately decided to take the risk (e.g., share a cell phone), they typically did not divulge it to their parents. Additionally, students reiterated several times that it was not the case that their parents encouraged them to *not* to share at all. It was very specific to high-cost items. So if, for instance, someone was asked to share a basketball or school supplies (e.g., pens, pencils, etc.), participants were unanimous that there would be little hesitance.

*Male (6th grade):* I mean normally I would. But my mom literally said that if she catches me giving it [cell phone] to [name of friend] again, she would take it away.

*Male (7th grade):* Yea same. My mom’s will be like that too.

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*Male (6th grade):* Yea we always do. Like [name of friend] got a basketball from his uncle and I can like call him up anytime and be like ‘yo, can I take your ball down to the court’ and he like never says no.

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Female (6th grade): It just depends. Like [name of friend] borrows my stuff all my time. That shirt she’s wearing…totally mine [laughing]. But I’m not just going to hand over my phone to just anybody. Like let’s be real. Sh**[Profanity] breaks. So sorry girl, we may be tight like that [close friends] but I can’t be buying another one. Ain’t nobody got money for that.

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Female #1 (7th grade): Miss., did you know the three of us all use the same phone?
Facilitator: What do you mean?
Female #1 (7th grade): Like nobody knows but we just share it. So like today, [name] had it while we were at breakfast. Then I got it from her in math. Then [name] took it back at lunch!
Female #2 (7th grade): A lot of kids actually do that…I don’t know...Like I like helping out like that because like a lot of us don’t’ have a lot of things so it feels good when we look out for each other and if one of us gets something good then we’re really good about being like, ‘yea go ahead and take it for a bit.’ But like we just gotta make sure we don’t get ratted out.
Female #3 (7th grade): Yea I remember I was talking to this one girl online and she goes to [name of another school]. And she was like, ‘I would never give my phone to somebody. I got too much personal sh**[profanity] on it.’ And I remember being like, yo, like I don’t even care. Like me and my friends are real with each other. We got nothing to hide. I feel like it makes us even closer cuz we’re like sharing one brain.
Female #4 (7th grade): Truth [I agree]. We all got each others’ backs and we don’t snitch on each other.

In light of the parental concerns raised and the clear indication that participants would respond differently depending on what types of examples came to mind, this item was considered comprehensible, but in need of further consideration regarding relevance. In one focus group, participants decided to take a poll when they first began discussing each item and then again, after everyone had shared their thoughts (this was done to satisfy their own curiosity, not at the request of the moderator or research assistant). It is interesting to note that this particular item led to the greatest shift in votes from “sometimes” to “often,” in the item response after it was decided that participants should vote based on how they think they would answer if they could do so without taken into consideration their parents’ wishes.
**Item 8: I like to play with others.** While male participants found this item to be both comprehensible and relevant, females took issue with the word “play,” suggesting it was not developmentally appropriate for this age group.

*Male (6th grade):* I thought of playing basketball or football...or like computer games...

*Female (7th grade):* I would put ‘never’ cuz like me and my friends don’t [using finger quotations] ‘play’. We hang out. We talk.

*Female (7th grade):* Who ‘plays’? Like seriously. What are we, like 5[years old]?

Furthermore, there was also concern expressed (majority females) regarding the extent to which “playing” (or “hanging out”) was an important criterion to consider in the measurement of prosocial behavior, mostly due to the confusion in establishing whether “playing with others” was a low or high cost behavior.

*Female (6th grade):* Well, isn’t it supposed to be something that people do that makes my life better...I mean, I’m having fun with you and all but let’s be real, so are you...so you’re ‘positive’ act for the day is hanging out with me? C’mon!

*Male (7th grade):* I don’t know. I just feel like it’s so much harder to do the other things we’ve been talking about. Playing video games isn’t that special.

*Male (7th grade):* Yea I would play with anyone. Doesn’t have to be a friend. Hell, it doesn’t even have to be a good person. If you’re good, you’re good...let’s go...show me who’s boss.

*Female (7th grade):* ...it just totally depends. If someone has no friends and you’re like, let’s hang...then yea, of course, that should count cuz [because] that’s not easy. But if [name of friend] wants me to go to CVS with her afterschool, I’m not going to be like ‘wow, that’s really nice of her.’

With the consistently strong reaction to the word “play” and the lack of consensus regarding its importance, this item was not considered comprehensible or relevant.

**Item 9: I trust others.** Second only to the reverse-coded item (#3), this statement produced the most confusion and disagreement within the focus group discussions. 72% of participants believed the statement was referring to how trustworthy they themselves were (as
opposed to the extent to which they trust others). Even in cases where participants were in agreement regarding the meaning, there were several arguments (in 5 of the 8 groups) as to whether or not the ability to trust others was important with regard to operationalizing prosocial behavior, particularly in comparison to being trustworthy yourself.

**Male (6th grade):** I think it means that...like, well, people trust you! Like they’ll tell you stuff and know that you’re not a snitch.

**Male (7th grade):** So I thought of people who would come up to me and tell me their secrets or if it’s like a situation where they would be like, ‘nah, he’s going to blab it to everyone.’

**Female (7th grade):** Yea but like, why would it matter if I’m cool with telling somebody everything but they aren’t telling me sh**[profanity] in their lives. Like how does that make me a good or kind person? Or help someone?

With the majority of students interpreting this statement backwards and the difficulty coming to consensus regarding its importance, this item was considered not comprehensible and not relevant.

Finally, when the last item on the scale was presented, “I try to help others,” participants reached consensus fairly easily and quickly, identifying the item as both comprehensible and relevant. Students were also asked to comment on the formatting of the measure (i.e., likert-scale with options of “never,” “sometimes,” and “often”). Ninety-six percent were in agreement that the answer options were clear, suitable and provided enough of a range for the participants to make a choice they felt comfortable with.

In summary, the above findings suggested that several items on the PBS may be vulnerable to varied interpretations and particular word choices may be producing unintended confusion. A few culture-specific issues were raised including the meaning of “happy” when providing social support and norms around sharing, as well as a few developmental and gender
concerns (e.g., the inappropriateness of the word “play” and the interpretation of “share things”).

Table 18 provides a summary of the decision made regarding comprehensibility and relevance of each of the items.

Discussion

In response to well-documented challenges facing minority adolescents, the PYD movement has placed increased emphasis on the importance of promoting youth agency (Burrow, O’Dell & Hill, 2010; Larson, 2006; Schwartz, Côté, & Arnett, 2005). Given one of the primary assumptions underlying PYD ideology is the empowerment and inclusion of youth in their own development, advocates of PYD have proposed “process studies” that consult youth on what they consider to be positive development themselves (Alberts et al., 2006; King et al., 2005). This is particularly important given the limited investigation directed towards the integration of culturally-relevant factors into commonly identified indicators of positive youth development (Tsang & Yip, 2006; Williams, Anderson, Francois, Hussain, & Tolan, 2014).

In addition to the emphasis placed on positive identity in the PYD literature, research has also pointed to ethnic identity as a potential developmental asset for youth of color. However, there is relatively little integration across these two areas of study. Using a primarily descriptive and explorative approach, the current study consulted with members of the target population (Hispanic, biracial, and White youth) in order to increase understanding of how culture may influence prosocial behavior. Focus groups conducted over two sessions explored construct operationalization and the instrument validity of a prosocial behavior measure.

Summary of Findings for Research Questions QUAL 1 + QUAL 2

Prosocial behavior is open to numerous definitions, conceptualizations and methodological approaches. However, the underlying assumption remains that it is a socially
contingent, culturally-anchored construct that changes over time, both in terms of individual life course changes as well as changes in socio-cultural context. As such, a phenomenological approach was applied to identify essential components of prosocial behavior, as well as the experiences which make them unique or distinguishable for a group of diverse youth. The use of a hierarchically organized catalogue to the coding system facilitated the identification of several emergent themes regarding key behaviors of the construct and concerns regarding how it was measured.

**Research Question QUAL 1a: Operationalization of Prosocial Behavior.** Three notable patterns emerged when participant responses were organized into discrete categories. First, over half the categories appeared conceptually related in that they referenced individual or interpersonal emotion management strategies. Although not specific to prosocial behaviors, a recent body of literature has linked emotion regulation in adolescence to greater positive affect, greater well-being and reduced psychopathology (Hsieh & Stright, 2012; Morris, Silk, Steinberg, Myers & Robinson, 2007). But, in general, developmental research on emotion regulation has predominantly focused on the periods of infancy and early childhood (Eisenberg, Champion, & Ma, 2004; Thompson, 1994) and non-Latino White participants (Cunningham, Kliewer, & Garner, 2009), with a smaller body of work focusing on adolescence. Eisenberg and colleagues, for example, found that individual differences in emotion regulation were associated with empathy-related prosocial responding and positive cognitive restructuring. The underlying argument for correlations found among prosocial tendencies, emotion regulation and general social competence has been that positive affect and social skills, including prosocial behavior, are all stemming from optimal regulation (Eisenberg et al., 1996; Eisenberg, Fabes, & Spinrad, 2006; Eisenberg, Karbon, Troyer, Switzer, 1994).
Additionally, more recent research conducted with adolescents has also pointed to the possibility that specific emotion regulation strategies, including reappraisal, may be more adaptive than others in youth (Carthy, Horesh, Apter, Edge, & Gross, 2010; Mestre, Nunez-Lozano, Gomez-Molinero, Zayas, & Guil, 2017; Verzeletti, Zammuner, Galli, & Agnoli, 2016). Moreover, even within the sparse literature on adolescents, researchers have again emphasized the importance of examining normative emotional regulatory processes among low-income and ethnic minority children in order to ensure sociocultural and socioeconomic contexts are taken into account (Cunningham, Kliwer, & Garner, 2009; Raver, 2004). Both of these proposed research lines, therefore, align with the current findings. Participants repeatedly associated prosociality with examples of peers who managed their behavior, emotions, and attention voluntarily and adaptively. Additionally, the ability to reappraise may be particularly important for adolescents in general, but in particular for youth experiencing chronic psychosocial stressors as it may decrease duration in which an individual is experiencing more severe negative affect or heightened stress. This too was highly valued among the focus group participants, as they indicated their preferred form of emotional support was a prosocial peer facilitating their ability to cognitively reframe a negative situation (e.g., “If I see things better after talking to you, you’re the one I want to go to”).

The second theme identified by the research team emerged after close examination of language use. Participants often relied on describing all the things that were considered not prosocial in order to then identify what would be perceived as prosocial in their peer worlds. Accessing the vocabulary to describe character strengths or positive social interactions proved challenging for the majority of participants. In some ways, it mirrored the emphasis placed in the literature on deficit-oriented perspectives compared to strength-based strategies.
Finally, the third theme that became apparent was the difficulty in determining the perceived cost of a prosocial behavior or how likely it would be to be well-received, without full consideration of the helper and recipient (e.g., what is the quality of their relationship, what is their individual status in the social hierarchy, what is the helper’s previous “track record” doing prosocial behaviors, why does the recipient believe help is being received, etc.) This finding in particular is consistent with recent studies calling for greater specificity in target when measuring prosocial behavior (Padilla-Walker & Carlo, 2014) and also aligns with previous work that has considered social attribution (Nelson & Crick, 1999). Both the characteristics of a helper and the context of helping have been found to influence the recipient responses (Algoe, 2006; Weinstein & Ryan, 2010). That is, there is variation in how recipients perceive or evaluate the actions of helpers and therefore helpers can be more or less devalued as a result (Fisher, Nadler, & Whitcher-Alagna, 1982; Murray & Holmes, 1993). Self-determination theory (SDT) posits that the recipients are likely to experience greater benefit (i.e., be more grateful and feel more cared for) when prosocial acts are autonomous (i.e., self-motivated and volitional; Weinstein & Ryan, 2010). However, this work is still in its early stages and further study is needed.

The more interesting finding, however, was the two notable exceptions that consistently emerged across the focus group sessions: individuals using humor to make others laugh and students who volunteered to translate for their peers during class instruction. There was “universal” agreement in both cases that when these particular prosocial behaviors were performed, unlike the others, the motivation behind the act was not questioned as they were believed to solely benefit the recipients. Turning attention back to the previous theme regarding emotion regulation, humor was also the most frequently mentioned strategy utilized for attentional deployment when discussing the best ways prosocial peers could provide emotional
support. This is particularly interesting given the issues that came up regarding the word “happy” in the first item of the PBS. A very clear distinction was made between “making someone “happy” (item on the PBS) and “making someone laugh” (prosocial behavior identified by the students). While the latter was likely to produce the intended effect (“lift someone spirits”), the former had the potential to be interpreted as dismissive.

**Research question QUAL 1b: Generalization of prosocial behavior.** The most obvious concern that arose in the current study was the possibility that contemporary research is not addressing the full range of diverse types of prosocial behaviors salient to young adolescents. While, helping, sharing, and caring (i.e., providing emotional support) are commonly included on the instruments available to researchers, acting humorous, standing up for others, being complimentary or encouraging, expressing gratitude or displaying positive affect are a few of a longer list not explicitly captured in most measurement instruments. Conversely, “volunteering,” which was among the lowest-ranking items (#24), is one item that does appear regularly (e.g., Hardy et al., 2015).

This notion is further reinforced when considering a study with similar aims conducted with sixth grade students fifteen years ago. Bergin and colleagues (2003) also used focus groups to ask a diverse group of participants to generate a list of the most frequently observed prosocial behaviors in their social worlds. The 2003 study sample included participants from a middle-class, suburban neighborhood (primarily European-Americans and Asian-American), a subsidized housing neighborhood consisting exclusively of African-Americans, a low-income, working-class neighborhood, approximately 50% African-American and 50% European-American and a working and middle class Christian church youth group, primarily European-American. Thus, both studies targeted distinct populations of youth. Yet with the exception of
three behaviors (out of a total of 24), all of the prosocial behaviors generated in the previous study were identified again in the current focus groups (see Table 16 for side by side comparison of the two studies). Of the missing three that did not overlap with Bergin’s study, two alluded to accountability (“admits mistakes” and “apologizes”) and the third referenced humility (“does not brag”). Although neither of those emerged as explicit categories in the present study, students did define confidence as “someone who knows they’re good without always having to tell people they’re good” and included aspects of humility when describing the role of conflict mediator. Furthermore, both studies ranked the described behaviors according to frequency of mention and when compared side by side, the top ten was almost identical, with minor differences in sequence of order. For example, stands up for others was number one in the 2003 study, whereas defending behaviors held the number two spot in the current study (see Table 16, for rankings of prosocial behaviors in both the current study and Bergin’s 2003 study). Both the recognition of the potential omission of relevant behaviors as well as the consistency of rank order findings found in the two studies suggest it may be time to re-examine the inventory of behaviors included in current research in order to ensure prosocial behavior, as it currently exists in the peer ecology of diverse youth, is fully captured.

**Research question QUAL 2: Comprehensibility and relevance of the PBS.** Although focus groups are often conducted to help during the item-development stage of creating a new instrument, with the exception of translated adaptations, it is rare for researchers to return to the “experts” for additional qualitative feedback regarding content validity. Even rarer, is the notion of “adolescent content experts” (Beaton, Bombardier, Guillemin, & Ferraz, 2000; Haynes, Richard, & Kubany, 1995; Vogt & King, 2004). Collaborating with participant youth in an evaluation of the PBS, the current study examined the comprehensibility and relevance of each
item. Several sources of response bias were identified affecting one or both of the evaluation criteria. In some cases, participants drew attention to the developmental appropriateness (e.g., the use of the word “play”) or cultural relevance (e.g., sharing norms, translating for ELL students during classroom instruction) of items. But the much larger issues were the potential lack of clarity in the wording of certain items, the need for greater precision regarding specific terms (e.g., “share”) and increased consideration of gender differences with regard to interpretation. The only item that was deemed both comprehensible and relevant was “I try to help others.” This is a frequently employed indicator on most measurements of prosocial behavior (e.g., Goodman, Meltzer, & Bailey, 1998; Ladd & Profilet, 1996). Conversely, the item that the participants identified as the most challenging to interpret was reverse-coded (“When I am asked to do something I don’t want to do, I get mad”). Previous research has suggested reverse-coded items on questionnaires are prone to yield incorrect answers, and as the only one on the PBS, it may be even more likely to have been read incorrectly (Van Sonderen, Sanderman, & Coyne, 2013).

In summary, the findings form the second set of focus group sessions provided important insight with regard to issues of comprehensibility (mostly attributed to wording) and relevance (mostly concerned with scope of content covered). In general, misinterpretations of items seemed to suggest the self-reported prosocial composite obtained when using the PBS may be biased downward as a result of under-reporting of prosocial actions (in comparison to a true score).

Limitations and Future Directions

The current study contributed to the growing literature describing how qualitative procedures can be used to improve measurement quality, however, it was not without limitations.
First, although focus group methodology was particularly useful in empowering individuals to express their perspective, the downside of such group dynamics is that the articulation of group norms may silence individual voices of dissent. The group interaction may have also produced conformity pressures, shifting an individual’s genuine perception of events or simply limiting the information he/she was willing to provide (Ryan, Gandha, Culbertson, & Carlson, 2014). This is of particular concern within the adolescent social world in which participants are likely to succumb to “peer pressure” or consensus of the remaining members of the group due to the heightened sensitivity to social perceptions (Bloor, Frankland, Thomas, & Robson, 2001).

Second, the literature offers very little guidance with regard to how qualitative procedures may be employed to improve study measures. An attempt was made here to contribute to that knowledge base, but it is important to develop systematic procedures on how to go about revising quantitative items that have been identified as problematic. Along similar lines, it was also unclear how to best handle quantitative comparisons across groups in situations where the scale contained both common and culturally unique items (Krause, 2006).

Naturally, the highly desirable nature of prosocial behavior and the societal approval it garners, allowed for contamination due of self-presentational concerns (Arpaci, Baloğlu, & Kesici, 2018; Belson, 1986; Eisenberg, Carlo, Murphy, & Van Court, 1995; Sudman & Bradburn, 1974). Participants may have been inclined to selectively share experiences or exaggerate attitudes in keeping with an urge to be perceived as “good.” However, the longstanding relationship the students had with one another, as well as with the facilitator of the focus groups (a current instructor of a class focused on social emotional skills), allowed for a certain level of comfort and intimacy that may have helped thwart the desire for impression management.
And finally, the use of convenience sampling obscured differences that may be relevant to the broader ethnic group. One of the most frequently encountered problems with studies targeting Latino adolescents is that they are often sampled from schools, which are likely to serve ethnic enclaves and thus over represent one particular group among discernably different subcultures (e.g., Mexico, Puerto Rico, Central America, South America, Dominican Republic). In this case, the selected school site had a higher enrollment of low-income students of Puerto Rican and Dominican descent (and to a slightly lesser degree those who identified as biracial). Future studies may need to examine the extent to which these measurement issues are of concern to a pan-Latino sample or other specific Latino sub-groups.

On the flipside, however, some qualitative researchers argue homogeneity, particular in the case of gender, age, and ethnicity is recommended when conducting focus group. Compared to an ethnically heterogeneous group, participants may be more likely to speak openly and reveal how their social or cultural background is influencing their perceptions (Greenwood, Ellmers, & Holley, 2014; Morgan & Scannell, 1998).

**Strengths and Conclusions**

According to Haynes and colleagues (1995), carefully structured, open-ended interviews with members of the target population can increase the likelihood that items are content valid for their intended purpose, as well as suggest additional facets and the need for construct refinement. Similarly, Hay and colleagues (2016) argued for the advantages gained when attempts are made to gain an in-depth understanding of ethnocultural groups, “free from the constraints of comparative approaches that require focus on phenomena that exist across groups” (p. 46). Harnessing the power of phenomenological inquiry and participatory action research, the current
study attempted to gain further insight of the meaning and behaviors associated with prosociality through close collaboration with an underrepresented ethnocultural community.

One notable strength of the current study was the paired focus group approach (i.e., two of each grade and gender) in which the application of the constant comparative method offered an opportunity to assess saturation (in general) and across-group (in particular). Because focus group data are typically analyzed one focus group at a time, analysis of multiple focus groups effectively serves as a proxy for theoretical sampling (i.e., performing additional sampling to assess the meaningfulness and/or refine themes; Charmaz, 2000). Multiple groups can be used to assess if a theme that emerged from one group also emerged from other groups. Therefore, with eight focus groups, it was possible to have an emergent-systematic focus group design, wherein the term *emergent* refers to the four focus groups that were used for exploratory purposes and *systematic* refers to the four focus groups that were used for verification purposes.

Additionally, although not a frequently applied method, the decision to consult with members of the target population (i.e., those for whom the instrument is intended) to inform the conceptualization of prosocial behavior and its item development had three notable advantages. First, it offered an effective way to gain a more in-depth understanding of how the target population regard specific experiences. This drew attention to the need to expand the current repertoire of prosocial behaviors to better reflect everyday patterns of behavior. Second, through the use of participatory methods, it demonstrated how today’s youth are uniquely positioned to make important contributions to research as agents in their own personal and community development. This served as an initial step towards balancing power between the researcher and researched. The latter were no longer viewed as “passive participants,” but rather partners in the research process. And finally, in exploring the salience, relevance, acceptability and
representativeness of measurement indicators from an underrepresented perspective, additional insight was gained towards establishing content-valid, well-constructed data collection instruments.

**Concluding Remarks and Next Steps**

Arguments have been made that research efforts intending to improve cultural sensitivity of measurement instruments must move beyond *surface* structure to *deep* structure (i.e., address core values, beliefs, norms and other significant aspects of the targeted group’s world views and lifestyles; Resnicow, Soler, Braithwaite, Ahluwalia, & Butler, 2000). As current youth in the U.S. come from diverse cultural, ethnic, and racial backgrounds, greater understanding of generational and cultural nuances, have become increasingly important (Castro, 1998; Skaff, Chesla, Mycue, & Fisher, 2002). The “melting pot” nature of the youth landscape is often overlooked in terms of the distinct attitudes or views held by subgroups, the value placed on different behaviors or actions, the barriers that may exist to performing such behaviors, and the manner in which they manifest across social interactions.

Failure to take such factors into account when attempting to understand aspects of positive youth development often limits local understanding of situational definitions. This in turn impacts the ability to establish construct validity and/or draw meaningful inferences from study conclusions (Nichols, 2002). Therefore, if the goal is to better understand a multicultural society, it becomes imperative to direct greater efforts towards improving the quality of current quantitative measures. As Krause (2006) argued, "without sound measures, high-powered quantitative statistical procedures are conducted in vain" (p. 34).

Examining prosocial behavior of a target population within the cultural frame from which the concept emerges is an important step in resolving cross-cultural measurement issues, but
other pieces of the puzzle remain unsolved. These may include closer examination of the PBS through estimations of its reliability and validity, cross-cultural comparisons across ethnic groups using procedural equivalence techniques (e.g., confirmatory factor analysis) or attempts to quantify the hypothesized relationships between prosocial behavior and emotion regulation strategies and/or other positive developmental outcomes. Therefore, to build on the current study’s findings, it may be necessary to utilize quantitative methods when pulling from the “measurement toolbox.” Qualitative methods served this study’s goals well, as both research questions QUAL 1 and QUAL 2 revolved around asking why questions: why might current conceptualization and measurement of prosocial behavior not generalize to adolescent ethnic minority youth? This, however, has led to follow-up what and how questions, specifically regarding the PBS: To what extent does the PBS demonstrate reliability and factorial validity? What might be the observed differences between members of different ethnic groups? And how does ethnic group membership influence outcomes? These questions may be better answered through the use of quantitative methods.
CHAPER IV
INTEGRATED DISCUSSION

With recent calls for increased focus on adaptation rather than on risk, greater attention has been directed towards charting the developmental processes that may be normative for nondominant cultural groups (Cabrera, Beeghly, & Eisenberg, 2012; Hall, Yip, & Zárate, 2016; Lee, 2008; Motti-Stefanidi, 2017). According to Poortinga (1995), cross-cultural comparative studies dating back to the 1960s often operated from two assumptions: first, Western conceptualizations of psychological constructs extend to other cultures; second, cultural contexts do not influence the processes and outcomes of assessment. In the 1980s, several approaches to adapting tests and increasingly sophisticated psychometric analysis tools were developed to address the second assumption (Poortinga and Van de Vijver, 1987). More recently, cross-cultural researchers have promoted the establishment of measurement equivalence of relevant constructs across cultures in order to draw meaningful comparisons in results (Bieda et al., 2017; Chen et al., 2015; Kankaras & Moors, 2010). Unfortunately, however, this remains a rare practice and much of the research involving ethnic minorities continues to lack the requisite examination of conceptual and measurement equivalence (Hall, Yip, & Zárate, 2016; Schwartz et al., 2014). As such, there is a failure to take into account two important issues: the meaning of constructs may differ across groups, and even if constructs are similar in meaning, instruments developed for a given construct in one particular group may not be assessing the same construct in other groups (or even if the same construct is being assessed, it may not be assessing it in the same manner).

With these issues in mind, the current investigation sought to address challenges of comparability and cross-cultural validity in the study of prosocial behavior. Given the research
involved different adolescent ethnic groups (Hispanic, biracial and White), universality of meaning was not assumed. Instead, two studies were performed employing different strategies to ascertain whether the construct was comparable across groups and whether the selected instrument was adequate and appropriate. More specifically, the quantitative study examined measurement invariance prior to exploring prosocial behavior as a predictor of well-being. The qualitative study explored the operationalization of prosocial behavior and evaluated the item validity of the Prosocial Behavior Scale (PBS). Four research questions were proposed to guide the work:

**QUAN 1:** Does the PBS measure prosocial behavior equally well (i.e., demonstrate measurement equivalence) in European American and Hispanic samples, such that scores have the same meaning and structure?

**QUAN 2:** Does the relationship between prosocial behavior and positive well-being vary as a function of ethnicity (European American vs. Hispanic)?

**QUAL 1:** (a) How is prosocial behavior operationalized by diverse minority youth, and (b) to what extent is the current conceptualization of prosocial behavior generalizable to diverse minority youth?

**QUAL 2:** To what extent is each item of the PBS comprehensible (i.e., clearly worded and specific enough) and relevant to the measurement of prosocial behavior?

Examining the PBS from a closer lens, research questions QUAN 1 and QUAL 2 addressed item bias (i.e., whether the items on an instrument intended to measure prosocial behavior have a different psychological meaning across cultures). The second set of research questions, QUAL 1 and QUAN 2, were broader in scope and addressed more general aspects of
construct bias (i.e., differential appropriateness of behaviors associated with the construct in different ethnic subgroups).

**Research Questions QUAN 1 and QUAL 2: A Closer Look at Item Bias**

In general, three levels of invariance are of primary interest to most researchers—configural invariance, metric/weak invariance, and scalar/strong invariance (Harachi et al., 2006; Schwartz et al., 2014; Vandenbult & Lance, 2000). Accordingly, the quantitative study conducted an invariance testing process from the least to most restrictive models, each successive model subsuming the previous one. Configural invariance confirmed that the same items were loading onto the single factor model for both Hispanic and European American youth. Prior to achieving adequate model fit, however, one reverse-coded item had to be removed. This was followed by a test of metric invariance which examined the assumption that factor loadings for each indicator on its corresponding latent factor were equivalent. When only partial invariance is met (as was the case with the quantitative study), identifying the source of variation is important (Millsap & Olivera-Aguilar, 2012).

First, a closer examination of the noninvariant items revealed a pattern of higher factor loadings for Hispanics as compared to European Americans. This suggested that the items may be less ambiguous for the Hispanic youth (i.e., more of the variance could be attributed to the latent dimension of prosocial behavior) and therefore for this particular group the items served as better indicators of prosocial behavior. This finding however, was inconsistent with results from the qualitative study. An evaluation of the instrument by the target population themselves revealed potential issues with the meaning, wording, and structure of more than half the items. The concerns raised in the focus groups suggested that interpretation of the majority of the items could be producing systematic measurement error. Potential cultural and contextual concerns
were raised even for items that had had been identified as invariant in the quantitative study. For example, Item 1, “I try to make people happier when they are sad” triggered a debate among focus group participants regarding whether or not this may potentially be perceived as emotionally dismissive of an individual’s distress or hardship. Similarly, Item 7, “I let others use my things,” raised concern about parental warnings regarding the sharing of valuables, particularly when resources are limited. The one reverse-coded item, however, was identified as problematic in both the quantitative (i.e., failed to load significantly in both ethnic subgroups) and qualitative (i.e., deemed not comprehensible or relevant by adolescent evaluators) findings.

In summary, with the widespread use of self-reports in comparative cross-cultural research, investigators often face the challenge of determining to what extent the selected measurement instruments allow for meaningful comparisons across diverse population groups. This includes not only whether the construct has the same meaning across groups, but whether the group comparisons of sample estimates (e.g., means and variances) are reflective of true group differences. Prioritizing the question of whether or not the instrumentation provides a valid basis for making group comparisons is therefore paramount in order to ensure that group-specific attributes unrelated to the construct do not contaminate subsequent analyses. With only a select group of items identified as invariant and numerous concerns raised regarding the item-wording and interpretation, the quantitative study lacked evidence to support the cross-cultural equivalence of the PBS in the selected target population. Both the quantitative and qualitative findings uncovered potential sources of item bias that may surface when applied to different groups.
Research Questions QUAL 1 and QUAN 2: A Closer Look at Construct Bias

In keeping the focus on identification of strengths among minority youth, and not merely the challenges they experience, the second set of research questions explored the possible cultural and contextual variations that may influence prosocial behaviors. The quantitative study revealed ethnicity to be a significant moderator in the association between prosocial behavior and well-being. Speculatively, ethnic group membership was proposed as another potential contributor given salience of ethnic identity is stronger among Hispanic youth and has previously been linked to both prosocial behavior and well-being (East & Weisner, 2009; Phinney, 1989; Roberts et al., 1996; Yip and Fuligni, 2002). Overall, results from the quantitative study suggested the possibility that prosocial behavior may differ for the Hispanic and European American samples under study, however, these findings were viewed with caution given the lack of strict measurement equivalence found in the measurement tool, the small effect size associated with the moderating effect, and the previously mentioned concerns regarding item bias. Therefore, in addressing research question QUAN 1, this study provided an indirect test of construct equivalence (i.e., examining the nomological network) and suggested there was potential construct bias when examining prosocial behavior across the ethnic group samples.

Shifting to the qualitative study, further examination of construct bias was conducted. Consulting directly with the study population, focus groups were used to identify the differential appropriateness of behaviors associated with prosociality. Results of the qualitative study added to the evidence of construct bias suggesting incomplete coverage of all relevant facets of the construct. The wide-ranging list of prosocial categories suggested that a potential first step in moving beyond the impasse of definition inconsistencies could be continuing the shift away from a unitary conceptualization of prosocial behavior. Both the partial invariance findings in the
quantitative study and emergent themes found in the qualitative study indicated adoption of a multidimensional construct may allow for differential, nonlinear, and interactive components to be taken into account (Padilla-Walker & Carlo, 2014).

One additional pattern identified in the qualitative data pointed to the potential role of emotion regulation in improving the understanding of prosocial behavior. According to the youth participants, the ability to downregulate negative emotions and the use of cognitive reappraisal seemed to influence the frequency in which prosocial acts were performed and the quality of the acts themselves. Prosocial indicators that may be overlooked in the literature were also identified. For example, humor, a highly salient behavior in the adolescent peer world (observed in the current study with Hispanic, biracial, and White students, as well as in a previous study with additional ethnic groups represented) is not a common indicator on contemporary prosocial measures (Bergin et al., 2003). Finally, youth indicated that specifying the helper or recipient within a prosocial interaction, as well as identifying whether the actions were occurring in-person or online, may have important implications for measurement of prosocial behavior.

In summary, cross-cultural studies often presume universality of meaning and generalizability of measurement instrumentation, overlooking the possibility of bias. Construct validity, however, is predicated on the assumption that the construct is meaningful to individuals within the target group. Even when the construct of interest is found to be universal, its manifestations may differ across cultures. To better understand these cultural nuances, it was necessary to examine both group comparisons and the cultural-specific qualities (i.e., culturally related social values, beliefs, and behaviors) that may be playing a role. Taken together, findings from the quantitative and qualitative studies suggested strong evidence of construct bias in the
operationalization of prosocial behavior among diverse youth (predominantly Hispanic and biracial).

**Limitations and Directions for Future Research**

One of the primary concerns affecting both studies is the reality that the Latino population is not only growing, but also becoming more diverse over time. Latinos in the U.S. come from a broad range of countries of origin, all of which are discernably different. And yet in research, they are often routinely collapsed into one group despite many demographic differences and varying levels of exposure to U.S. culture (e.g., discrimination, acculturation, ethnic identity, cultural factors, human capital). Therefore, research that examines processes of interest may be working within a relatively heterogeneous group defined broadly (e.g., Latinos), more narrowly (i.e., Puerto Ricans), or homogenously very narrowly (e.g., recently immigrated Mexican Americans). Due to the paucity of data on Latino adolescents compared to majority youth, the current investigation initially set out to evaluate a relatively homogeneous group in order to minimize culturally-based confounds. This was especially important given the emerging consensus that patterns of prosocial behavior may vary by culture (Luria, Cnaan, & Boehm, 2015; Padilla-Walker & Carlo, 2014). However, as a result of convenience sampling, the Hispanic populations across the two studies were not drawn from the same ethnic subgroup. Thus, such clustering of findings may bring about a further source of bias and possibly obscure intragroup variations.

To further compound this issue, the second largest represented ethnic group in the qualitative study sample was biracial adolescents. Cross-cultural researchers have previously pointed out that that belonging to two or more racial groups does not guarantee a multiracial individual psychologically identifies with multiple groups (Binning, Unzueta, Huo, & Molina,
Thus by grouping all students who identified as two races into a single category and using a multiracial-monoracial dichotomy when comparing the content of transcripts, it is important to note the possibility of unwarranted assumptions regarding the uniformity of multiracial identity.

In addition to concerns regarding the study population, there are also important methodological limitations to address. Choosing to conduct a mixed methods investigation facilitated the collection of richer and more integrated data that simultaneously captured universal and culture-specific aspects of the target construct of prosocial behavior. However, the payoff from this approach can be further enhanced with additional consideration for the order of implementation and how it aligns with intended study goals. Traditionally, procedural equivalence (quantitative) is concerned with assessing the quality of quantitative survey items that have previously been crafted with interpretive equivalence techniques (e.g., focus groups). The logic is that qualitative procedures are able to uncover basic themes prior to the application of quantitative measurement techniques, which then provide insight as to how well the items function in their proposed manner. However, since the current dissertation was not intended to be a measurement study, the quantitative and qualitative approaches were used in conjunction with one another rather than serially, in order to hone in on sources of nonequivalence in an established and widely-used prosocial measure. This simultaneous quantitative/qualitative inquiry approach can also prove to be useful when nonequivalence is the result of the omission of relevant behaviors or items, as was the case in the current research.

Finally, in the adolescent evaluation of the PBS, only one question was asked regarding the format of the instrument. But previous researchers have shed light on how culture may differentially influence response styles on surveys or questionnaires (Schwartz, 1994;
Trompenaars & Hampden-Turner, 1998). For example, Ji and colleagues demonstrated that members of collectivist societies which place greater emphasis on conformity tend to direct more attention to self and other behaviors (Ji, Schwarz, & Nisbett, 2000). This results in greater reliance on recall (as opposed to estimation processes) when constructing responses. Additionally, there is evidence of links between individualistic and collectivistic orientations with acquiescent vs. extreme response styles (Johnson, Kulesa, Cho, & Shavitt, 2005) and social desirability effects (Lalwani, Shavitt, & Johnson, 2006). These findings suggest future consideration of such response styles and theoretically grounding measurement strategies may be important steps in cross-cultural measurement.

In summary, it is important to delineate culture-specific representations of prosocial social behavior from different ethnic subgroups. This allows for better understanding of the distinct and shared aspects of positive development attributed to within-group heterogeneity (Sesma & Roehlkepartain, 2003). Additionally, selected measurement strategies may require integrating both emic and etic perspectives to increase likelihood that results are culturally valid and generalizable.

**Strengths and Conclusions**

To widen the scope of inquiry, the current investigation employed a multiphase mixed methods design. While the concept of mixed methods research is not new to prosocial behavior, it may be underutilized (Furman & Sibthorp, 2014). In conditions in which neither quantitative nor qualitative methods are sufficient in themselves, both can work synergistically to enrich current theory and practice. The quantitative study was generally more concerned with comparing frequency of occurrence and examining the size of associations between the constructs of interest (which require the reduction of phenomena to numerical values in order to
carry out statistical analyses). In contrast, the primary aim of the qualitative research was to provide rich descriptive accounts of the phenomenon under investigation. The quantitative study also focused more broadly on procedural equivalence which addresses the operational aspects of measurement (i.e., metric equivalence, scalar equivalence). The qualitative study on the other hand, directed attention to interpretative forms of equivalence (i.e., concern with similarities and differences in meaning, expressions and words across cultures). Collectively, the two studies were intended to advance our understanding of prosocial behavior among adolescent minority populations.

Researchers are encouraged to strategically “mix and match” both current and new forms of measurement, capitalizing on the strengths and counteracting the weaknesses of each approach. For instance, in the opening section of this chapter, concerns regarding the effect of partial invariance were discussed. From a quantitative comparative standpoint, establishing full invariance is desirable, but practical experience suggests partial invariance is more readily attainable. Given the lack of guidelines available on how to proceed subsequent to finding only partial invariance, it is often met with the desire to “fix the problem,” (e.g., removing items/observations from the measures). These decisions often rely on data-driven procedures and thus require replication to ascertain the generalizability of results. In the current investigation however, this challenge provided an opportunity to introduce the complimentary use of quantitative and qualitative methods in order to better understand sources of nonequivalence and to strengthen the validity of inferences being made.

A similar approach may be useful in the instrument development stages as well. One method proposed by Przeworski and Teune describes the inclusion of a common set of etic indicators and group-specific sets of emic items (Johnson, 2006; Kohn & Slomczynski, 1990;
Pzeworski & Teune, 1970; Triandis & Marin, 1983). Using qualitative analysis, measurement items that are likely to transcend the cultures of interest are identified (i.e., etics or universals) and then are combined with questions that are believed to be specific to one or more cultures being examined (i.e., emics). The subsequent quantitative analyses are then used to verify empirically which measures represent the same construct cross-culturally. This strategy allows for items that were not identified as etic to remain included as valid indicators (if they correlate with etic indicators within a given cultural group). In doing so, both interpretative and procedural equivalence are addressed. At this time, however, more research is needed to better understand the use and practical limitations of such an approach.

**Concluding Remarks**

The mixed methods design of this project suggested that prosocial behavior is a multidimensional construct, the definition of which is negotiated between individuals and their cultural worlds, with tendencies to display both homogeneity and heterogeneity across culturally diverse research settings. To gain a more nuanced and contextually-sensitive understanding of adolescent development, investigators may need an expanded vantage point, integrating multiple lenses and utilizing multiple methods.

The current investigation also examined challenges and barriers to keeping pace with the rapidly changing demography within the U.S. To move forward and to provide useful insights for solving ethical problems in real-world research settings, attention to the early phases of instrument development is critical. Evidence from the two studies conducted suggested the PBS, a commonly used prosocial measure, may benefit from adaptation accounting for cultural variability (when applied to the current investigation’s target populations) in order to avoid misinterpretation of measurement artifacts as evidence of cultural variability in prosocial
behavior. Integration of findings from both studies point to the need for further consideration of measurement equivalence and the application of cultural theories to measurement problems. In the absence of reliable and valid measures of such constructs, research findings are of questionable value and the implications are far-reaching.
<table>
<thead>
<tr>
<th>Study</th>
<th>Construct Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Batson &amp; Powell (2003)</td>
<td>Covers the broad range of actions intended to benefit one or more people other than oneself—behaviors such as helping, comforting, sharing, and cooperating.</td>
</tr>
<tr>
<td>Christoph, Gniewosz, &amp; Reinders (2014)</td>
<td>Helping behaviors toward unknown people in everyday life.</td>
</tr>
<tr>
<td>Dunfield, Kuhlmeier, O’Connell, &amp; Kelley (2011)</td>
<td>Any behavior that an individual engages in to benefit another.</td>
</tr>
<tr>
<td>Eisenberg (1987)</td>
<td>Voluntary, intentional behavior that results in benefits for another; the motive is unspecified and may be positive, negative or both.</td>
</tr>
<tr>
<td>Eisenberg, Spinrad, &amp; Knafo-Noam (2015)</td>
<td>Any voluntary behavior intended to benefit another.</td>
</tr>
<tr>
<td>Eisenberg &amp; Mussen (1989)</td>
<td>Voluntary actions that are intended to help or benefit another individual or group of individuals.</td>
</tr>
<tr>
<td>Epps, Park, Huston, &amp; Ripke (2005)</td>
<td>Positive or prosocial behaviors can include social skills for relating to peers and adults, empathetic and helpful actions, responsibility, autonomy and self-control.</td>
</tr>
<tr>
<td>Grusec, Davidov, &amp; Lundell (2002)</td>
<td>Voluntary behavior that intentionally produces a benefit for another person, regardless of whether this behavior is costly/beneficial to the donor, for example, helping others or sharing with them.</td>
</tr>
<tr>
<td>Gurven &amp; Winking (2008)</td>
<td>Any voluntary action that may benefit other individuals, such as sharing, comforting, helping, rescuing, or defending.</td>
</tr>
<tr>
<td>Hastings, Utendale, &amp; Sullivan (2007)</td>
<td>Proactive and reactive responses to the needs of others that serve to promote the well-being of others.</td>
</tr>
<tr>
<td>Hay &amp; Cook (2007)</td>
<td>Feeling for another (friendliness, affection, empathic concern), working with another (cooperative activity and goal-setting, sharing resources, helping another to accomplish tasks) and ministering to another (nurturing, comforting, providing resources, responding to another's wishes and needs).</td>
</tr>
<tr>
<td>Penner, Dovidio, Piliavin, &amp; Schroeder (2005)</td>
<td>Defined by some significant segment of society and/or one's social group as generally beneficial to other people.</td>
</tr>
<tr>
<td>Source</td>
<td>Definition</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Staub (1979)</td>
<td>Voluntary behavior intended to benefit another person.</td>
</tr>
<tr>
<td>Twenge, Ciarocco, Baumeister, &amp; Bartels (2007)</td>
<td>Actions that benefit other people or society as a whole.</td>
</tr>
<tr>
<td>Weinstein &amp; Ryan (2010)</td>
<td>Acts undertaken to protect or enhance the welfare of others…includes helpful interventions, volunteer work, and the donating of money or blood, among other examples.</td>
</tr>
<tr>
<td>Zeldin, Salvin-Williams, &amp; Small (1984)</td>
<td>An act benefitting another individual in which the actor is not fulfilling any explicitly defined role obligation and the behavior of the actor is not solicited by another individual.</td>
</tr>
</tbody>
</table>
Table 2

Demographic Characteristics of Full Sample and Ethnic Subgroups

<table>
<thead>
<tr>
<th></th>
<th>Full Sample</th>
<th></th>
<th>European American</th>
<th></th>
<th>Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(N = 165)</td>
<td></td>
<td>(N = 93)</td>
<td></td>
<td>(N = 72)</td>
</tr>
<tr>
<td></td>
<td>Min</td>
<td>Max</td>
<td>Mean</td>
<td>SD</td>
<td>Min</td>
</tr>
<tr>
<td>Adolescent Age in Years</td>
<td>11</td>
<td>15</td>
<td>13.4</td>
<td>.710</td>
<td>12</td>
</tr>
<tr>
<td>Adolescent Grade in School</td>
<td>6</td>
<td>9</td>
<td>8.04</td>
<td>.713</td>
<td>7</td>
</tr>
<tr>
<td>Mother’s Age in Years</td>
<td>27</td>
<td>65</td>
<td>42.7</td>
<td>7.05</td>
<td>32</td>
</tr>
<tr>
<td>Father’s Age in Years</td>
<td>27</td>
<td>65</td>
<td>44.8</td>
<td>7.18</td>
<td>33</td>
</tr>
<tr>
<td>Mother’s Education in Years</td>
<td>2</td>
<td>24</td>
<td>14.0</td>
<td>4.95</td>
<td>2</td>
</tr>
<tr>
<td>Father’s Education in Years</td>
<td>1</td>
<td>26</td>
<td>14.1</td>
<td>5.23</td>
<td>1</td>
</tr>
<tr>
<td>Number of People in Household</td>
<td>2</td>
<td>11</td>
<td>4.27</td>
<td>1.32</td>
<td>2</td>
</tr>
</tbody>
</table>

*p < .05; **p < .01
Table 3

Internal Consistencies (Cronbach’s Alpha) of Study Instruments

<table>
<thead>
<tr>
<th>Study Instrument</th>
<th>Number of Items</th>
<th>Total Sample (N = 165)</th>
<th>European American (N = 93)</th>
<th>Hispanic (N = 72)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prosocial Behavior</td>
<td>9</td>
<td>.69</td>
<td>.59</td>
<td>.73</td>
</tr>
<tr>
<td>EPOCH Total</td>
<td>25</td>
<td>.93</td>
<td>.90</td>
<td>.94</td>
</tr>
<tr>
<td>Engagement</td>
<td>5</td>
<td>.71</td>
<td>.61</td>
<td>.78</td>
</tr>
<tr>
<td>Perseverance</td>
<td>5</td>
<td>.86</td>
<td>.80</td>
<td>.87</td>
</tr>
<tr>
<td>Optimism</td>
<td>5</td>
<td>.84</td>
<td>.86</td>
<td>.84</td>
</tr>
<tr>
<td>Connectedness</td>
<td>5</td>
<td>.84</td>
<td>.81</td>
<td>.83</td>
</tr>
<tr>
<td>Happiness</td>
<td>5</td>
<td>.89</td>
<td>.93</td>
<td>.91</td>
</tr>
</tbody>
</table>
Table 4

*Fit Indices for Confirmatory Factor Analytic Models of the Prosocial Behavior Scale in Full Sample and Ethnic Groups*

### Full Sample (N = 165)

<table>
<thead>
<tr>
<th>Model</th>
<th>χ² (df)</th>
<th>p</th>
<th>χ²/df</th>
<th>CFI</th>
<th>RMSEA</th>
<th>RMSEA CI&lt;sub&gt;90&lt;/sub&gt;</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unmodified hypothesized model</td>
<td>53.05 (27)</td>
<td>.00</td>
<td>1.97</td>
<td>.87</td>
<td>.08</td>
<td>.05 - .11</td>
<td>Reject</td>
</tr>
<tr>
<td>Modified hypothesized model&lt;sup&gt;a&lt;/sup&gt;</td>
<td>26.00 (18)</td>
<td>.10</td>
<td>1.44</td>
<td>.96</td>
<td>.05</td>
<td>.00 - .09</td>
<td>Accept</td>
</tr>
</tbody>
</table>

### European American Sample (N = 93)

<table>
<thead>
<tr>
<th>Model</th>
<th>χ² (df)</th>
<th>p</th>
<th>χ²/df</th>
<th>CFI</th>
<th>RMSEA</th>
<th>RMSEA CI&lt;sub&gt;90&lt;/sub&gt;</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unmodified hypothesized model</td>
<td>56.24 (27)</td>
<td>.00</td>
<td>2.08</td>
<td>.73</td>
<td>.11</td>
<td>.07 - .15</td>
<td>Reject</td>
</tr>
<tr>
<td>Model hypothesized model&lt;sup&gt;a&lt;/sup&gt;</td>
<td>28.27 (18)</td>
<td>.06</td>
<td>1.57</td>
<td>.91</td>
<td>.08</td>
<td>.00 - .13</td>
<td>Accept</td>
</tr>
</tbody>
</table>

### Hispanic Sample (N = 72)

<table>
<thead>
<tr>
<th>Model</th>
<th>χ² (df)</th>
<th>p</th>
<th>χ²/df</th>
<th>CFI</th>
<th>RMSEA</th>
<th>RMSEA CI&lt;sub&gt;90&lt;/sub&gt;</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unmodified hypothesized model</td>
<td>25.60 (27)</td>
<td>.54</td>
<td>.94</td>
<td>1.00</td>
<td>.00</td>
<td>.00 - .09</td>
<td>Accept</td>
</tr>
<tr>
<td>Model hypothesized model&lt;sup&gt;a&lt;/sup&gt;</td>
<td>16.91 (18)</td>
<td>.53</td>
<td>.94</td>
<td>1.01</td>
<td>.00</td>
<td>.00 - 1.0</td>
<td>Accept</td>
</tr>
</tbody>
</table>

<sup>a</sup> Removal of Item 3 and correlated errors specified between Items 16 and 17 and Items 18 and 19.
### Table 5

*Factor Loadings of the Prosocial Behavior Scale Single-Factor Model for Full Sample and Ethnic Groups*

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Full Sample</th>
<th>European American</th>
<th>Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prosocial → make people happier</td>
<td>.47</td>
<td>.32</td>
<td>.49</td>
</tr>
<tr>
<td>Prosocial → spend time with friends</td>
<td>.53</td>
<td>.74</td>
<td>.40</td>
</tr>
<tr>
<td><strong>Prosocial → don’t get mad</strong></td>
<td><strong>.04</strong></td>
<td><strong>.11</strong></td>
<td><strong>.10</strong></td>
</tr>
<tr>
<td>Prosocial → try to help others</td>
<td>.58</td>
<td>.65</td>
<td>.51</td>
</tr>
<tr>
<td>Prosocial → share things with friends</td>
<td>.54</td>
<td>.33</td>
<td>.65</td>
</tr>
<tr>
<td>Prosocial → help with homework</td>
<td>.40</td>
<td>.29</td>
<td>.55</td>
</tr>
<tr>
<td>Prosocial → let others use my things</td>
<td>.40</td>
<td>.28</td>
<td>.62</td>
</tr>
<tr>
<td>Prosocial → like to play</td>
<td>.49</td>
<td>.54</td>
<td>.48</td>
</tr>
<tr>
<td>Prosocial → I trust others.</td>
<td>.51</td>
<td>.36</td>
<td>.58</td>
</tr>
</tbody>
</table>

*Note.* Bolded values denote non-significant loadings.

*a* Item removed in respecification of unmodified hypothesized model.
## Table 6

### Multigroup Confirmatory Factor Analysis Across Ethnic Groups for the Prosocial Behavior Scale

<table>
<thead>
<tr>
<th>Model Comparison</th>
<th>Model</th>
<th>χ²</th>
<th>df</th>
<th>χ²/df</th>
<th>χ²_diff</th>
<th>∆df</th>
<th>p</th>
<th>RMSEA</th>
<th>RMSEA CI&lt;sub&gt;90%&lt;/sub&gt;</th>
<th>CFI</th>
<th>∆CFI</th>
<th>Invariant?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model A</td>
<td>Unconstrained (Configural Invariance)</td>
<td>-</td>
<td>45.17</td>
<td>36</td>
<td>1.25</td>
<td>-</td>
<td>.14</td>
<td>.04</td>
<td>.00 - .07</td>
<td>.96</td>
<td>-</td>
<td>YES</td>
</tr>
<tr>
<td>Model B</td>
<td>Measurement Weights (Full Metric invariance): B vs. A</td>
<td>60.99</td>
<td>44</td>
<td>1.39</td>
<td>15.82</td>
<td>8</td>
<td>.04</td>
<td>.05</td>
<td>.01 - .08</td>
<td>.92</td>
<td>-.04</td>
<td>NO</td>
</tr>
<tr>
<td>Model C</td>
<td>Measurement Weights (Partial Metric Invariance): C vs. A</td>
<td>50.26</td>
<td>41</td>
<td>1.23</td>
<td>5.09</td>
<td>5</td>
<td>.41</td>
<td>.04</td>
<td>.00 - .07</td>
<td>.96</td>
<td>0</td>
<td>YES</td>
</tr>
<tr>
<td>Model D</td>
<td>Measurement Intercepts (Scalar Invariance): D vs. C</td>
<td>61.70</td>
<td>48</td>
<td>1.29</td>
<td>11.44</td>
<td>7</td>
<td>.12</td>
<td>.04</td>
<td>.00 - .07</td>
<td>.93</td>
<td>-.02</td>
<td>YES</td>
</tr>
</tbody>
</table>
Table 7

**Results of $\chi^2$ Difference Tests of Prosocial Behavior Scale Individual Path Analysis**

<table>
<thead>
<tr>
<th></th>
<th>$\chi^2$</th>
<th>df</th>
<th>$\Delta\chi^2$</th>
<th>p</th>
<th>RMSEA</th>
<th>CFI</th>
<th>$\Delta$CFI</th>
<th>Invariant?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unconstrained Model</td>
<td>45.17</td>
<td>36</td>
<td>-</td>
<td>.14</td>
<td>.04</td>
<td>.96</td>
<td>-</td>
<td>YES</td>
</tr>
<tr>
<td><strong>Prosocial → I try to make people happier when they are sad.</strong></td>
<td>58.56</td>
<td>43</td>
<td>13.39</td>
<td>.06</td>
<td>.05</td>
<td>.93</td>
<td>-.03</td>
<td><strong>NO</strong></td>
</tr>
<tr>
<td>Prosocial → I spend time with my friends.</td>
<td>59.43</td>
<td>43</td>
<td>14.26</td>
<td>.04</td>
<td>.05</td>
<td>.92</td>
<td>-.04</td>
<td>YES</td>
</tr>
<tr>
<td>Prosocial → I try to help others.</td>
<td>60.92</td>
<td>43</td>
<td>15.75</td>
<td>.03</td>
<td>.05</td>
<td>.91</td>
<td>-.05</td>
<td>YES</td>
</tr>
<tr>
<td><strong>Prosocial → I share things I like with my friends.</strong></td>
<td>59.21</td>
<td>43</td>
<td>14.04</td>
<td>.05</td>
<td>.05</td>
<td>.92</td>
<td>-.04</td>
<td><strong>NO</strong></td>
</tr>
<tr>
<td>Prosocial → I help others with their homework.</td>
<td>59.81</td>
<td>43</td>
<td>14.64</td>
<td>.04</td>
<td>.05</td>
<td>.92</td>
<td>-.04</td>
<td>YES</td>
</tr>
<tr>
<td><strong>Prosocial → I let others use my things.</strong></td>
<td>57.03</td>
<td>43</td>
<td>11.85</td>
<td>.11</td>
<td>.05</td>
<td>.93</td>
<td>-.03</td>
<td><strong>NO</strong></td>
</tr>
<tr>
<td>Prosocial → I like to play with others.</td>
<td>60.75</td>
<td>43</td>
<td>15.58</td>
<td>.03</td>
<td>.05</td>
<td>.91</td>
<td>-.05</td>
<td>YES</td>
</tr>
<tr>
<td>Prosocial → I trust others</td>
<td>59.98</td>
<td>43</td>
<td>14.81</td>
<td>.04</td>
<td>.05</td>
<td>.92</td>
<td>-.04</td>
<td>YES</td>
</tr>
</tbody>
</table>

*Note.* Bolded items were identified as non-invariant and freely estimated in subsequent analyses.
Table 8

Revised Prosocial Behavior Scale: Scalar Invariant Items

1. I spend time with my friends

2. I try to help others.

3. I help others with their homework.

4. I like to play with others.

5. I trust others.

Note. Scalar invariance (also described as “strong invariance”) implies that the factor loadings and intercepts are equal across groups and therefore the means of the factor can be meaningfully compared.
Table 9

<table>
<thead>
<tr>
<th>Study Instrument</th>
<th>Number of Items (Response Range)</th>
<th>Min-Max</th>
<th>Total Sample M(SD)</th>
<th>European American M(SD)</th>
<th>Hispanic M(SD)</th>
<th>t/F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prosocial Behavior</td>
<td>9 (1-3)</td>
<td>1.4-3.0</td>
<td>2.48 (.27)</td>
<td>2.53 (.23)</td>
<td>2.41 (.31)</td>
<td>2.53*</td>
</tr>
<tr>
<td>EPOCH Total</td>
<td>25 (1-5)</td>
<td>2.2-5.0</td>
<td>4.08 (.53)</td>
<td>4.03 (.48)</td>
<td>4.15 (.58)</td>
<td>3.90**</td>
</tr>
<tr>
<td></td>
<td>Engagement</td>
<td>5 (1-5)</td>
<td>2.2-5.0</td>
<td>3.77 (.62)</td>
<td>3.70 (.53)</td>
<td>3.86 (.72)</td>
</tr>
<tr>
<td></td>
<td>Perseverance</td>
<td>5 (1-5)</td>
<td>1.6-5.0</td>
<td>3.84 (.74)</td>
<td>3.74 (.71)</td>
<td>3.96 (.76)</td>
</tr>
<tr>
<td></td>
<td>Optimism</td>
<td>5 (1-5)</td>
<td>1.2-5.0</td>
<td>3.80 (.80)</td>
<td>3.66 (.79)</td>
<td>3.99 (.78)</td>
</tr>
<tr>
<td></td>
<td>Connectedness</td>
<td>5 (1-5)</td>
<td>2.5-5.0</td>
<td>4.62 (.49)</td>
<td>4.65 (.47)</td>
<td>4.57 (.53)</td>
</tr>
<tr>
<td></td>
<td>Happiness</td>
<td>5 (1-5)</td>
<td>1.0-5.0</td>
<td>4.39 (.76)</td>
<td>4.39 (.75)</td>
<td>4.38 (.76)</td>
</tr>
</tbody>
</table>

Note. Mean comparisons were conducted with a one-way independent t-test and a one-way MANOVA for the Prosocial Behavior Scale and EPOCH subscales, respectively

* p < .05, ** p < .01
Table 10

**Bivariate Correlations of Study Measures for Full Sample (N = 165)**

<table>
<thead>
<tr>
<th></th>
<th>Prosocial</th>
<th>EPOCH (Total)</th>
<th>Engagement</th>
<th>Perseverance</th>
<th>Optimism</th>
<th>Connectedness</th>
<th>Happiness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prosocial</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPOCH (Total)</td>
<td>.44*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engagement</td>
<td>.23**</td>
<td>.65**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perseverance</td>
<td>.34**</td>
<td>.77**</td>
<td>.46*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Optimism</td>
<td>.31**</td>
<td>.87**</td>
<td>.44**</td>
<td>.61**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connectedness</td>
<td>.41**</td>
<td>.78**</td>
<td>.39**</td>
<td>.45**</td>
<td>.57**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Happiness</td>
<td>.42**</td>
<td>.80**</td>
<td>.28**</td>
<td>.43**</td>
<td>.67**</td>
<td>.71**</td>
<td>1</td>
</tr>
</tbody>
</table>

* p < .05; ** p < .01
Table 11

**Bivariate Correlations of Study Measures for Ethnic Groups**

<table>
<thead>
<tr>
<th></th>
<th>Prosocial</th>
<th>EPOCH (Total)</th>
<th>Engagement</th>
<th>Perseverance</th>
<th>Optimism</th>
<th>Connectedness</th>
<th>Happiness</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prosocial</strong></td>
<td>-</td>
<td>.34**</td>
<td>.01</td>
<td>.16</td>
<td>.25*</td>
<td>.40**</td>
<td>.43**</td>
</tr>
<tr>
<td>EPOCH (Total)</td>
<td>.61**</td>
<td>-</td>
<td>.53**</td>
<td>.70**</td>
<td>.85**</td>
<td>.76**</td>
<td>.81**</td>
</tr>
<tr>
<td>Engagement</td>
<td>.49**</td>
<td>.73**</td>
<td>-</td>
<td>.36**</td>
<td>.30**</td>
<td>.24*</td>
<td>.19</td>
</tr>
<tr>
<td>Perseverance</td>
<td>.61**</td>
<td>.85**</td>
<td>.54**</td>
<td>-</td>
<td>.47**</td>
<td>.36**</td>
<td>.33**</td>
</tr>
<tr>
<td>Optimism</td>
<td>.49**</td>
<td>.90**</td>
<td>.56**</td>
<td>.76**</td>
<td>-</td>
<td>.55**</td>
<td>.68**</td>
</tr>
<tr>
<td>Connectedness</td>
<td>.41**</td>
<td>.83**</td>
<td>.55**</td>
<td>.59**</td>
<td>.67**</td>
<td>-</td>
<td>.73**</td>
</tr>
<tr>
<td>Happiness</td>
<td>.42*</td>
<td>.81**</td>
<td>.38**</td>
<td>.57**</td>
<td>.70**</td>
<td>.70**</td>
<td>-</td>
</tr>
</tbody>
</table>

*Note. Correlations for European American adolescents appear above the diagonal (n = 93). Correlations for Hispanic adolescents appear below diagonal (n = 72).  
* p < .05;  ** p < .01*
Table 12

*Hierarchical Linear Regression Analysis Predicting Adolescent Well-Being from Prosocial Behavior and Ethnicity*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$b$</th>
<th>$SE$</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>2.01*</td>
<td>.84</td>
<td>3.99***</td>
</tr>
<tr>
<td>Adolescent Age in Years</td>
<td>.05</td>
<td>.05</td>
<td>.03</td>
</tr>
<tr>
<td>Adolescent Gender</td>
<td>.02</td>
<td>.02</td>
<td>.01</td>
</tr>
<tr>
<td>SES per capita</td>
<td>.00</td>
<td>.01</td>
<td>.00</td>
</tr>
<tr>
<td>Prosocial Behavior</td>
<td>.53**</td>
<td>.16</td>
<td>.18**</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>-1.03*</td>
<td>.58</td>
<td>.22*</td>
</tr>
<tr>
<td>Interaction(^a)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prosocial Behavior X Ethnicity</td>
<td>.49*</td>
<td>.23</td>
<td>.16*</td>
</tr>
</tbody>
</table>

*Note. Inclusion of the interaction term prosocial behavior x ethnicity explained an additional significant portion of variance, $\Delta F_{(1, 156)} = 4.66, p = .03, \Delta R^2 = .022.*

* $p < .05;** p < .01; ***p < .001***
Table 13

Demographic Data of Focus Group Participants

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Count (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Puerto Rican</td>
<td>27 (40%)</td>
</tr>
<tr>
<td>Dominican</td>
<td>11 (16%)</td>
</tr>
<tr>
<td>Biracial</td>
<td>16 (24%)</td>
</tr>
<tr>
<td>White</td>
<td>14 (20%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>Count (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>33 (49%)</td>
</tr>
<tr>
<td>Girls</td>
<td>35 (51%)</td>
</tr>
</tbody>
</table>

Total Participants | 68
Table 14

*Sample Line-by-Line In Vivo Coding from Focus Group Sessions*

<table>
<thead>
<tr>
<th>Sample Code</th>
<th>[Tentative] Code</th>
<th>Transcript Excerpt</th>
</tr>
</thead>
<tbody>
<tr>
<td>good at distracting</td>
<td>Comfort</td>
<td>...yea, like if someone is good at distracting so when you’re having a bad day they can get your mind off of everything</td>
</tr>
<tr>
<td>get [your] mind off everything</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[do not] share [your] business</td>
<td>Trust</td>
<td>Someone won't go share your business with everyone. Knows how to keep quiet when it counts.</td>
</tr>
<tr>
<td>[do] keep quiet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>make you laugh [mad] funny</td>
<td>Humor</td>
<td>I think of someone who can always make you laugh. Like just really mad funny all the time.</td>
</tr>
<tr>
<td>[not] salty; mad</td>
<td>Positive/Supportive</td>
<td>...like, doesn’t get salty or mad when good things happen to you and not them.</td>
</tr>
</tbody>
</table>
### Table 15

#### List of Prosocial Behaviors Described by Adolescent Focus Group Participants

<table>
<thead>
<tr>
<th>Category</th>
<th>Subcategory</th>
<th>Description</th>
<th>Sample Participant Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoids Drama</td>
<td></td>
<td>Does not engage or escalate rumors/problems&lt;br&gt;Does not take “sides”&lt;br&gt;Does not gossip/share false information about others&lt;br&gt;Does not share personal information about others</td>
<td>When they tell her something bad about someone, she’ll be like “not interested” or like “isn’t there anything about your life you would rather share with me?”</td>
</tr>
<tr>
<td>Compliments, Flattery</td>
<td></td>
<td>Says nice things about others&lt;br&gt;Shares praise/admiration</td>
<td>I guess if they said something like wow, you’re really good at that...or I’m really happy you’re here.</td>
</tr>
<tr>
<td>Conflict Resolution</td>
<td></td>
<td>Mediates&lt;br&gt;Does not insist on being “right”</td>
<td>He’s just good at helping to squash things. He gets you to see the other side.</td>
</tr>
<tr>
<td>Defending Behaviors</td>
<td>Acts Assertive&lt;br&gt;Confronts Aggressor&lt;br&gt;Seeks Help&lt;br&gt;Acts as Ally</td>
<td>Demands aggression/bullying stop&lt;br&gt;Confronts aggression/attacks, guards/shields someone&lt;br&gt;Seeks support from adult or other friends&lt;br&gt;Stands up on someone else’s behalf</td>
<td>She has everyone’s back. If she sees someone being mean, she gets right in their face and tells them “enough.” And when you hear the way she says it, you just stop.</td>
</tr>
<tr>
<td>Donations Volunteering</td>
<td></td>
<td>Provides money, clothes, transportation, etc. to those in need&lt;br&gt; Gives time or provide a service (without compensation)</td>
<td>We drop it [clothes] off at our church a lot. Especially in the winter. It’s a big deal to my mom.</td>
</tr>
<tr>
<td>Emotional Support</td>
<td>Checking In&lt;br&gt;Cheering up&lt;br&gt;Comforting&lt;br&gt;Distracting&lt;br&gt;Shares Similar Experience</td>
<td>Asks “what’s wrong?” “how are you?” etc.&lt;br&gt;Brings happiness/lightheartedness to difficult situations&lt;br&gt;Provides reassuring words words/physical affection&lt;br&gt;Helps get someone’s mind off of hardship&lt;br&gt;Relates to others based off of own history/experience</td>
<td>...but when you feel like nobody cares about you or sees you, that’s really all it takes...just “how are you?” or “you doing okay?”</td>
</tr>
</tbody>
</table>
| Encouragement, Support | Inspiries and/or increases someone’s confidence  
Helps someone advance toward their goals | ...just being on the court with him makes me happy...I try harder cuz he’s always giving me props for my jump shot. |
|------------------------|-------------------------------------------------|-------------------------------------------------------------------|
| Gratitude              | Shows appreciation for kindness  
Frequently says thank you | I say it [thanks] a lot. I want people to know I appreciate when they help. |
| Helps                  | Academic Assistance  
Advice/Expertise  
Physical Assistance | Provides aid or assistance  
Relieves someone’s stress, gives guidance  
Makes something easier/less difficult | ...always has good ideas of what to do to make things better so I love talking to her. |
| Humorous               | Impressions/Silly Voices  
Accents  
Jokes, Funny Stories | Acts amusing, funny, comical  
Brings laughter to those around him/her | Who doesn’t want to laugh? I wish I only had funny friends |
| Inclusive              | Makes others feel welcome  
Increasing sense of belongingness  
Showing lack of favoritism, etc. | Like if we’re sitting at a table and they like move things so that you know you can sit down. |
| Initiates              | Starts conversations, greets others, begins friendships  
Makes the “first move” | Nobody wants to be the first to text. Even if it’s your best friend. |
| Avoids Harming Others  | Does not laugh or make fun of others, does not try to make someone feel less worthy, does not exclude others | I just know how much I hate myself when someone says something I post made them feel bad about themselves. She remembered my favorite song and played it when I was sad. |
| Listens                | Shows interest/attentive when someone shares about themselves | |
| Loyalty                | Demonstrates a strong feeling of support or allegiance  
Shows alliance, has someone’s back | I don’t even need to know the full story. Like I got you, girl. |
<p>| Maturity               | Acting age-appropriate, not being childish/silly | I’m going through a lot too. I don’t want to have to take care of you because you’re being a baby about it. |
| Non-Judgmental | Does not make assumptions or draw conclusions based on someone’s appearance, wealth, family, friends, etc. Gets to know someone for who they are. | I’ll act like it’s a big deal and he’ll be like whatever, you think I’m friends with you cuz of your clothes? Nah. |
| Patience | Allows others to take their time, does not rush others [especially with academic or physical tasks] | I’ll try to fast but even if I’m slow, she’s not like “hurry up” or like “why are you so slow” if she can’t move to the next one yet. |
| Shows physical affection/comfort | Gives hugs, holds someone’s hand, gives high-fives, etc. | We just like touching each other...[laughing] no, not like that. But like, I’ll come up behind her and like pull on her hair just to say hi...not in a mean way. |
| Playful physical exchanges | Styles or tugs on someone’s hair, pinches/squeezes cheeks, etc. | |
| Polite Shows Social Etiquette | Shows regard for others Follows social rules (“please,” “thank you”; holding door, etc.); courteous | No it can be something small...like he always holds the door when we get to class. It’s a small thing but everyone notices. |
| Positive Attitude Happy Demeanor | Acts upbeat/has an uplifting demeanor Displays energizing attitude Acts joyful, optimistic, etc. | But Ms., our lives are like really hard sometimes so I can’t be around negative energy. Just give me happy. |
| Self-Control | Ignores insults/provocations Non-confrontational, does not lose temper easily, etc. | I keep thinking if she calls him a [racial slur] one more time, she’s done. Like for real. But he’s just mad chill. Just lets it go. |
| [Comfortable with] Self-Disclosure | Shares personal information about oneself Open and upfront | Private? Well, no....well, maybe? It just seems shady when you ain’t telling us. Like it has to be bad. |
| Shares, Generous | Offers personal possessions to others for temporary or permanent use | She lets me use her phone all the time. I literally [laughing] give out her number as if it’s mine. |
| Respectful or [not] aggressive on social | Maintaining [optimal] presence online and making “wise” choices on Snapchat, FB, texting, online | ...whatever, they need to get in the game. They have no idea what to do. |</p>
<table>
<thead>
<tr>
<th>Media</th>
<th>chatting, group chats, sharing pictures, commenting on pictures, etc.</th>
<th>Like you gotta show me your life in pictures. I don’t need a mile-long post. One picture. That’s it, man. …always crushing it on the basketball and doesn’t have a fit when a game doesn’t go his way.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sportsmanship</td>
<td>Does not act like a sore loser Conegratulates winners Doesn’t get aggravated/frustrated during gameplay</td>
<td></td>
</tr>
<tr>
<td>Talk, hang out, Play</td>
<td>Engages in meaningful conversations Shares stories Fun to spend time with</td>
<td>We’ll lie on the floor for hours just talking…not even about anything.</td>
</tr>
<tr>
<td>Translates</td>
<td>Serves as a translator for ELL students during class or in online/in-person interactions afterschool</td>
<td>I mean it takes a lot of time but…it’s whatever…I like doing it. I know she needs it and it’s helping her out. I don’t want her not to know what’s going on.</td>
</tr>
<tr>
<td>Trust, Honesty</td>
<td>Does not share secrets Does not gossip Direct/upfront</td>
<td>…but not going to have to worry that it [private life event] is going to be all over school tomorrow…I know she’s got me so I can tell her and it won’t go anywhere.</td>
</tr>
</tbody>
</table>
Table 16

Prosocial Behaviors Identified by Adolescents in Focus Groups Conducted in 2003 and 2018 Qualitative Studies

Overlapping Items in Top 24 Frequently Mentioned Prosocial Behaviors

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>[Avoiding] Drama</td>
<td>#9</td>
<td>Avoids fights</td>
<td>#10</td>
</tr>
<tr>
<td>Compliments, Flattery</td>
<td>#10</td>
<td>Compliments</td>
<td>#4</td>
</tr>
<tr>
<td>Defending Behaviors</td>
<td>#2</td>
<td>Stands up for Others</td>
<td>#1</td>
</tr>
<tr>
<td>Emotional Support</td>
<td>#3</td>
<td>Provides Emotional Support</td>
<td>#2</td>
</tr>
<tr>
<td>Helps</td>
<td>#1</td>
<td>Helps others develop skills</td>
<td>#3</td>
</tr>
<tr>
<td>Humorous</td>
<td>#6</td>
<td>Humor</td>
<td>#7</td>
</tr>
<tr>
<td>Inclusive</td>
<td>#11</td>
<td>Inclusive</td>
<td>#5</td>
</tr>
<tr>
<td>Non-Judgmental</td>
<td>#13</td>
<td>Does not make fun of others</td>
<td>#6</td>
</tr>
<tr>
<td>Shares, Generous</td>
<td>#4</td>
<td>Shares</td>
<td>#9</td>
</tr>
<tr>
<td>Trust and Honesty</td>
<td>#5</td>
<td>Keeps Confidences Honest</td>
<td>#11</td>
</tr>
</tbody>
</table>

Non-overlapping Items in Top 24 Frequently Mentioned Prosocial Behaviors

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiates Social Contact</td>
<td>#7</td>
<td>Does not brag</td>
<td>#21</td>
</tr>
<tr>
<td>Translates</td>
<td>#16</td>
<td>Admits mistakes</td>
<td>#17</td>
</tr>
<tr>
<td>Self-Disclosure</td>
<td>#14</td>
<td>Apologizes</td>
<td>#18</td>
</tr>
<tr>
<td>Loyalty</td>
<td>#18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gratitude</td>
<td>#20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respectful</td>
<td>#21</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

129
<table>
<thead>
<tr>
<th>Term</th>
<th>Misuse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes he’s always lifting and so people like being around him</td>
<td>Lifting vs. uplifting</td>
</tr>
<tr>
<td>They are open minded…like anything they’re thinking they just say and you don’t have to guess because their minds are open to you.</td>
<td>Being direct, upfront vs. open minded</td>
</tr>
<tr>
<td>Someone who is high all the time…yea, like they know they are legit and nobody makes them feel bad about themselves.</td>
<td>Being “high” vs. someone who carries themselves with high regard (i.e., exhibits confidence)</td>
</tr>
<tr>
<td>It’s like when you have integration so people don’t think you’re lying.</td>
<td>Integration vs. integrity</td>
</tr>
<tr>
<td>Wait…sympathy means you’re sensitive, right? Like you’re really “feel-y” and might like cry if someone says something mean?</td>
<td>Sympathy vs. Sensitivity [to criticism/insults]</td>
</tr>
<tr>
<td>Yea, I think he’s prosocial. You mean like a pro at social media, right?</td>
<td>“Professional” social media user</td>
</tr>
<tr>
<td>He gives me influence. Like he makes good decisions and doesn’t do the wrong thing.</td>
<td>Influence as a noun vs. adjective/verb</td>
</tr>
<tr>
<td>I think it’s really nice when people share intelligence.</td>
<td>Advice, Wisdom</td>
</tr>
</tbody>
</table>
Table 18

*Comprehensibility and Relevance of Items on the Prosocial Behavior Scale According to Minority Youth*

<table>
<thead>
<tr>
<th>Item</th>
<th>Comprehensibility?</th>
<th>Relevance?</th>
<th>Feedback/Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>I try to make people happier when they are sad.</td>
<td>YES</td>
<td>NO</td>
<td>Further study needed. Item may potentially be interpreted as dismissive of emotions.</td>
</tr>
<tr>
<td>When I have to do things I don’t like, I get mad.</td>
<td>NO</td>
<td>NO</td>
<td>Reverse-coded structure and inclusion of double negative leads to confusion. Participants struggled to recognize the potential to demonstrate self-control or regulate emotions with how the item is worded.</td>
</tr>
<tr>
<td>I share things.</td>
<td>NO</td>
<td>YES</td>
<td>Gender difference regarding interpretation of “things”: males referenced material objects, females referenced self-disclosure</td>
</tr>
<tr>
<td>I help others with their homework.</td>
<td>YES</td>
<td>YES</td>
<td>Do not restrict the statement to “homework.” Opportunities to provide academic assistance happen equally if not more during school hours.</td>
</tr>
<tr>
<td>I let others use my things.</td>
<td>YES</td>
<td>NO</td>
<td>Responses vary based on interpretation of low- vs. high-cost items. Additional concern expressed regarding sharing norms</td>
</tr>
<tr>
<td>I like to play with others.</td>
<td>YES</td>
<td>NO</td>
<td>Concern regarding developmental appropriateness of the word “play” for adolescents. Participants disagreed regarding whether “playing” with someone reflects a prosocial behavior (low-cost behavior)</td>
</tr>
</tbody>
</table>

Note: 

- NO indicates that the item may be interpreted as dismissive of emotions.
- YES indicates that the item is comprehensible.
- YES indicates that the item is relevant.
<table>
<thead>
<tr>
<th>I trust others</th>
<th>NO</th>
<th>NO</th>
<th>Majority of participants interpreted the item as “Others trust me” (instead of “I trust others”)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Participants agreed that being trustworthy is more reflective of prosociality than trusting others.</td>
</tr>
</tbody>
</table>

^ See “Feedback/Recommendations” column for possible modifications to improve relevance of item.
Figure 1. Multiphase transformative mixed methods design examining conceptual and measurement equivalence of adolescent prosocial behavior among diverse youth.
Figure 2. Simple slopes analysis for the association between prosocial behavior and well-being, moderated by ethnic group.

* $p < .001$
Figure 3. Demographic breakdown of participants by grade/gender and number of focus groups conducted for each phase of the study.
Figure 4. Series of coding stages: open, axial and selective.
...that's like my sister cause... when she was little like she would go through the same things that I'm going through like let's say she'll argue a lot with my mom or like at school people would like tell her things just like me. So basically like she has been through a lot and we've been through the same things so I can always talk to her about it. She be like 'oh you should do this' or like... she'll give me advice what to do.

Because... I think it goes along with trying things you never done before, because like some people haven't done... like been through certain things that other people have and like the people who haven't it like I think it's important for them to like try and help you the best they can with what they have been through. Try to like to get your mind off it and like help you do something else.

*Figure 5.* Sample descriptor (“coding stripe”) used by research team member to identify unit of data.
Figure 6. Concept map distinguishing the categories associated with *helping behaviors* and providing *emotional support* as defined and described by diverse adolescent youth.
Figure 7. Concept map depicting emergent themes and subthemes from adolescent participant focus group interviews.
APPENDIX A

STUDY INSTRUMENTS

Prosocial Behavior Scale

The following statements describe lots of common situations. There are no ‘right’ or ‘wrong’ answers.

<table>
<thead>
<tr>
<th>Never</th>
<th>Sometimes</th>
<th>Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

1. I try to make people happier when they are sad
2. I spend time with my friends
3. When I have to do things that I don’t like I get mad
4. I try to help others
5. I am gentle
6. I cry about things that don’t matter
7. I share things I like with my friends
8. I feel annoyed
9. I help others with their homework
10. I let others use my things
11. I have bad dreams
12. I like to play with others
13. I trust others
EPOCH Well-Being Scale

This is a survey about you! Please read each of the following statements. Circle how much each statement describes you. Please be honest - there are no right or wrong answers!

<table>
<thead>
<tr>
<th>Statement</th>
<th>Almost never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>When something good happens to me, I have people who I like to share the good news with.</td>
<td>Almost never</td>
<td>Sometimes</td>
<td>Often</td>
<td>Very Often</td>
<td>Almost Always</td>
</tr>
<tr>
<td>I finish whatever I begin.</td>
<td>Almost never</td>
<td>Sometimes</td>
<td>Often</td>
<td>Very Often</td>
<td>Almost Always</td>
</tr>
<tr>
<td>I am optimistic about my future</td>
<td>Almost never</td>
<td>Sometimes</td>
<td>Often</td>
<td>Very Often</td>
<td>Almost Always</td>
</tr>
<tr>
<td>I feel happy.</td>
<td>Almost never</td>
<td>Sometimes</td>
<td>Often</td>
<td>Very Often</td>
<td>Almost Always</td>
</tr>
<tr>
<td>When I do an activity, I enjoy it so much that I lose track of time.</td>
<td>Almost never</td>
<td>Sometimes</td>
<td>Often</td>
<td>Very Often</td>
<td>Almost Always</td>
</tr>
<tr>
<td>I have a lot of fun.</td>
<td>Almost never</td>
<td>Sometimes</td>
<td>Often</td>
<td>Very Often</td>
<td>Almost Always</td>
</tr>
<tr>
<td>I get completely absorbed in what I am doing.</td>
<td>Almost never</td>
<td>Sometimes</td>
<td>Often</td>
<td>Very Often</td>
<td>Almost Always</td>
</tr>
<tr>
<td>I love life.</td>
<td>Almost never</td>
<td>Sometimes</td>
<td>Often</td>
<td>Very Often</td>
<td>Almost Always</td>
</tr>
<tr>
<td>I keep at my schoolwork until I am done with it.</td>
<td>Almost never</td>
<td>Sometimes</td>
<td>Often</td>
<td>Very Often</td>
<td>Almost Always</td>
</tr>
<tr>
<td>When I have a problem, I have someone who will be there for me.</td>
<td>Almost never</td>
<td>Sometimes</td>
<td>Often</td>
<td>Very Often</td>
<td>Almost Always</td>
</tr>
<tr>
<td>I get so involved in activities that I forget about everything else.</td>
<td>Almost never</td>
<td>Sometimes</td>
<td>Often</td>
<td>Very Often</td>
<td>Almost Always</td>
</tr>
<tr>
<td>When I am learning something new, I lose track of how much time has passed.</td>
<td>Not at all like me</td>
<td>A little like me</td>
<td>Somewhat like me</td>
<td>Mostly like me</td>
<td>Very much like me</td>
</tr>
<tr>
<td>In uncertain times, I expect the best.</td>
<td>Not at all like me</td>
<td>A little like me</td>
<td>Somewhat like me</td>
<td>Mostly like me</td>
<td>Very much like me</td>
</tr>
<tr>
<td>There are people in my life who really care about me.</td>
<td>Not at all like me</td>
<td>A little like me</td>
<td>Somewhat like me</td>
<td>Mostly like me</td>
<td>Very much like me</td>
</tr>
<tr>
<td>I think good things are going to happen to me.</td>
<td>Not at all like me</td>
<td>A little like me</td>
<td>Somewhat like me</td>
<td>Mostly like me</td>
<td>Very much like me</td>
</tr>
<tr>
<td>I have friends that I really care about.</td>
<td>Not at all like me</td>
<td>A little like me</td>
<td>Somewhat like me</td>
<td>Mostly like me</td>
<td>Very much like me</td>
</tr>
<tr>
<td>Once I make a plan to get something done, I stick to it.</td>
<td>Not at all like me</td>
<td>A little like me</td>
<td>Somewhat like me</td>
<td>Mostly like me</td>
<td>Very much like me</td>
</tr>
<tr>
<td>I believe that things will work out, no matter how difficult they seem.</td>
<td>Not at all like me</td>
<td>A little like me</td>
<td>Somewhat like me</td>
<td>Mostly like me</td>
<td>Very much like me</td>
</tr>
<tr>
<td>I am a hard worker.</td>
<td>Not at all like me</td>
<td>A little like me</td>
<td>Somewhat like me</td>
<td>Mostly like me</td>
<td>Very much like me</td>
</tr>
<tr>
<td>I am a cheerful person.</td>
<td>Not at all like me</td>
<td>A little like me</td>
<td>Somewhat like me</td>
<td>Mostly like me</td>
<td>Very much like me</td>
</tr>
</tbody>
</table>

Thank you!
APPENDIX B

STUDY MATERIALS APPROVED BY THE INSTITUTIONAL REVIEW BOARD

(IRB; UMASS OFFICE OF HUMAN RESEARCH PROTECTION)

Consent Form for Parent of Target Child Participant

Dear Parent or Guardian:

As part of our Second Step class focusing on social emotional learning, one of the co-instructors, Shereen El Mallah (graduate student at UMass) will be conducting focus group discussions during the regularly scheduled class period. The purpose of these focus groups is to improve our understanding of adolescent positive social behaviors (e.g., acts of kindness, courage, generosity, empathy, etc.). Our goal in better understanding these behaviors is to more effectively target our efforts to promote them.

We want to ensure that all parents are notified about the focus groups being conducted and to provide as much information about the process as possible. As a parent you have the right to prohibit your child’s participation. However, I hope that you will allow your child to participate as we believe it will be a positive experience for all involved.

Enclosed you will find detailed information regarding the focus but we have also highlighted some key points below to help you make an informed decision:

1. It is voluntary. Your child does not have to participate. Neither you nor your child is required to give a reason for not participating.

2. Choosing not to participate will not affect your child’s standing in Second Step.

3. Students who do participate will not be required to answer all of the questions.

4. All efforts will be made to ensure confidentiality of the focus groups. No names or identifying information will be recorded. Once completed, all of the focus group data will be carefully protected.

5. Focus groups have been found to be an excellent way to learn the unique point of view of different target populations (adults vs. adolescents, teachers vs. students, etc.). In this case, we are interested in hearing from the students themselves, what are the positive ways they choose to engage with one another and what increases the likelihood of these behaviors occurring.

If you would like any additional information about the focus groups, please call/email Shereen El Mallah at 610-209-7623/shereenelmallah@gmail.com

You do not need to notify the school or sign anything to allow your child to participate. If you do not want your child to participate, please notify the school office at (413) 534-2069 or Shereen El Mallah at 610-209-7623.
Assent Form for Child Participant (7-12 years old)

Child Assent Form: 7-12 years old

Assent Form for Participation in a Research Study
University of Massachusetts Amherst

Hello ____________________!
(stUDENT NAME)

You and some of your classmates are invited to be a part of a research study that will be lead by Ms. Shereen during your Second Step class. Before you decide whether or not you want to participate, we want you to have all the information you need to make the best decision for yourself.

First of all, a research study is a way to learn more about something. We would like to find out more about positive social behaviors that occur at school and with your friends. We are really interested in learning what these behaviors look like from your point of view.

You are being asked to join the study because you attend Donahue and know a lot about what life is like for a middle school school. We want to understand the school (and students) better by learning from you what are the positive behaviors you see that we (the adults) might not always see.

If you agree to join this study, you will be asked to share examples of positive social behaviors you have seen or done yourself, such as showing kindness or empathy, being courageous, helping others, etc. We will ask you to tell us why you think these behaviors are important, why you think they happen when they do, and which ones are most important to you. This conversation will be audio recorded because it is important to us not to miss anything that is said.

We hope that by taking time to focus on positive behaviors and situations that have happened, you will feel proud of your own experiences, those of your friends, and of your school.

Your parent or guardian knows about this study and that we are asking if you would like to be part of it. You do not have to join this study. It is up to you. You can say okay now and change your mind later. All you have to do is tell us you want to stop. No one will be mad at you if you don’t want to be in the study or if you join the study and change your mind later and ask to stop.

Before you say yes or no to being in this study, we will answer any questions you have. If you join the study, you can ask questions at any time. Just tell your parent or the researcher that you have a question.
Assent Form for Child Participant (13 years old and older)

Child/Young Adult Assent Form: 13 years old and older

Hello __________________

(student name)

You and a few of your classmates have been invited to be a part of a research study that will be lead by Ms. Shereen during your Second Step class. Before you decide whether or not you want to participate, we want you to have all the information you need to make the best decision for yourself. Please read the following set of questions/answers which will give you more information about what you will be doing during the study and why we think it is important! If you have any other questions, just ask Ms. Shereen and she will be happy to answer them!

Thanks for taking the time to make this decision!
Child/Young Adult Assent Form: 13 years old and older

Assent Form for Participation in a Research Study
University of Massachusetts Amherst

What is a research study?
A research study is a way to find out new information about something. You do not need to be in a research study if you don’t want to.

Why are you being asked to be part of this research study?
- You are being asked to take part in this research study because we are trying to learn more about positive social behaviors that kids like you see and use everyday.
- Positive social behaviors can include acting kind, generous, empathetic, courageous and many more. These actions usually have a positive impact on the people around you.
- We are really interested in learning what these behaviors look like from your point of view.

If you join the study what will you be asked to do?
- You will attend your regularly scheduled Second Step class.
- Instead of class, you will have a group discussion with some of the other students in your class about positive social behaviors you perform yourself and you see your peers perform.
- The group discussion will last the length of class (about 45 minutes) and it will be audio recorded (because it is important to us that we don’t miss anything that is said during the conversation).
- The group discussion will be audio recorded because it is important to us that we don’t miss anything that is said during the conversation.
- During this discussion, you will be provided with snacks and refreshments.

How will being in this study affect me?
- We are going to try to keep the focus of the conversation on positive social behaviors so we hope it will make you happy to be able to share all the good things that you have done for others/seen others do at school and with your friends.
Child/Young Adult Assent Form: 13 years old and older

Do your parents know about this study?
- Yes! A letter was sent home to your parents to let them know about this study.

Who will see the information collected about you?
- The information collected about you during this study will be kept safely locked up. Only the people on the research team will be able to see it.
- The research team will not tell anyone what was said in the discussion by individual name, but we may share the information that you give in general. So for example if one person said they liked apples, someone else said they liked bananas, and a third person said they liked mangoes, we would not mention what each person liked but we might say that after talking to the group, we think that students at this school like fruit.

What do you get for being in the study?
- During the focus groups, you will be provided with snacks and drinks.

Do you have to be in the study?
- You do not have to be in the study. No one will be upset if you don’t want to do this study. If you don’t want to be in this study, you just have to tell us. It’s up to you.
- You can also take more time to think about being in the study.

What if you have any questions?
- You can ask any questions that you may have about the study. If you have a question later that you didn’t think of now, you can speak to Shereen El Mallah at school or ask your teacher/parent to call her at 610-209-7623.
- You can also take more time to think about being in the study and also talk some more with your parents about being in the study.
- If you have any concerns about your rights as a research subject, you may contact the University of Massachusetts Amherst Human Research Protection Office (HRPO) at (413) 545-3428 or humansubjects@ora.umass.edu.

Other information about the study:
- If you decide to be in the study, please write your name below.
Letter of Support from School Recruitment Site

May 10th, 2017

To Whom It May Concern:

I currently serve as the principal of Maurice A. Donahue Elementary-Middle School in the Holyoke Public Schools district and oversee programming efforts in social and emotional learning (SEL). Our school’s instructional team looks forward to working with Shereen El Mallah in supporting the project entitled “Conceptualization and Measurement of Adolescent Prosocial Behavior: A Focus Group Study” in order to gain a deeper understanding of prosocial (positive) behavior from the subjective experience of the adolescent. The goals of the proposed study are aligned with several of the school’s objectives to employ bottom-up, student led approaches geared towards increasing peer-to-peer prosocial behavior and recognition as well as character strengths related to well-being and positive youth development. Furthermore, we share our research partners’ goal to identify and address the sociocultural and system-level factors that contribute to the feasibility, receptiveness, and sustainability of social-emotional intervention at Donahue.

Sincerely,

Gina Roy
Donahue Principal
Certification of Human Subjects Approval

Date: June 1, 2017
To: Shereen El Mallah, Psychological & Brain Sciences
Other Investigator: Kirby Deater-Deckard, Psychological & Brain Sciences
From: Lynnette Leidy Sievert, Chair, UMASS IRB

Protocol Title: Conceptualization and Measurement of Adolescent Prosocial Behavior: A Focus Group Study
Protocol ID: 2017-3660
Review Type: EXPEDITED - NEW
Paragraph ID: 7
Approval Date: 06/01/2017
Expiration Date: 05/31/2018
OGCA #: 

This study has been reviewed and approved by the University of Massachusetts Amherst IRB, Federal Wide Assurance # 00003909. Approval is granted with the understanding that investigator(s) are responsible for:

Modifications - All changes to the study (e.g. protocol, recruitment materials, consent form, additional key personnel), must be submitted for approval in e-protocol before instituting the changes. New personnel must have completed CITI training.

Consent forms - A copy of the approved, validated, consent form (with the IRB stamp) must be used to consent each subject. Investigators must retain copies of signed consent documents for six (6) years after close of the grant, or three (3) years if unfunded.

Adverse Event Reporting - Adverse events occurring in the course of the protocol must be reported in e-protocol as soon as possible, but no later than five (5) working days.

Continuing Review - Studies that received Full Board or Expedited approval must be reviewed three weeks prior to expiration, or six weeks for Full Board. Renewal Reports are submitted through e-protocol.

Completion Reports - Notify the IRB when your study is complete by submitting a Final Report Form in e-protocol.

Consent form (when applicable) will be stamped and sent in a separate e-mail. Use only IRB approved copies of the consent forms, questionnaires, letters, advertisements etc. in your research.

Please contact the Human Research Protection Office if you have any further questions. Best wishes for a successful project.
## APPENDIX C

### FOCUS GROUP DISCUSSION GUIDE

<table>
<thead>
<tr>
<th>Category</th>
<th>Questions</th>
<th>Follow-Up Questions/Probes</th>
</tr>
</thead>
</table>
| Defining Prosocial Behavior      | What are the most **common** behaviors between students at your school that are positive?                                                                                                                                                                           | What makes these behaviors positive?  
Do these behaviors benefit others?  
Which positive social behaviors do you think students do the most that adults are not able to see?  
Does the performer of these behaviors do them all the time? to everyone?  
**Why** do you think the person is performing these behaviors?  
| **Operationalizing** Prosocial Behavior  
**(Target and Context Specificity)** | Do positive social behaviors look different depending on where you are (e.g., home, school, online/social media forums)?                                                                                                                                                                                                         | Do the same people perform positive social behaviors in all three places?  
Where and when do positive social behaviors happen the most? the least?  
Where is it easiest/hardest to perform positive social behaviors? **Why?**  
| How do students try to **help** one another? |                                                                                                                                                                                                                                                                   | What are the best ways to help?  
What areas do students appreciate help in most? (e.g., school work, athletic skill building, friendship conflict, etc.)  
| What are the ways that students **take care** of their friends? |                                                                                                                                                                                                                                                                   | What situations do students need to feel cared for the most? (e.g., problems with school? conflict with friends? family troubles?)  
How can a student tell if someone needs to be cared for?  
What makes it easy/hard to show care for others?  
| What does it look like when a student is called a “**kind**” or “**nice**” person? |                                                                                                                                                                                                                                                                   | What are examples of “kind/nice” positive social behaviors?  
When and where are they more/less likely to happen?  
Is it easy/hard to perform these types of behaviors? **Why?**  
<p>|</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cost/Benefits of</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Prosocial Behavior</strong></td>
<td></td>
</tr>
<tr>
<td>Do students <strong>volunteer</strong> (to help the needy or less fortunate)?</td>
<td>Where do students volunteer the most? (e.g., soup kitchens, hospitals)</td>
</tr>
<tr>
<td>Do students <strong>donate</strong> things to help others?</td>
<td>What types of things to students usually donate? (e.g., money, clothes, etc.)</td>
</tr>
<tr>
<td>What types of things do students <strong>share</strong> with one another?</td>
<td>When and where does sharing occur the most?</td>
</tr>
<tr>
<td>If someone shares with someone, is there an expectation?</td>
<td></td>
</tr>
<tr>
<td>What positive social behaviors are used when trying to <strong>stand up</strong> someone?</td>
<td>Where and when does this happen the most? (at school? outside of school? online?)</td>
</tr>
<tr>
<td>What types of situations do positive social peers intervene the most? (e.g., bullying? exclusion? fights?)</td>
<td>How often do positive social peers try to get involved when others are having conflict/fighting to make the situation better?</td>
</tr>
<tr>
<td>What types of situations does this happen most in? (conflict between their friends? conflict between people they don’t know? when the fight is about something serious?)</td>
<td></td>
</tr>
<tr>
<td>How do positively social peers try to <strong>include</strong> others that have been “left out”?</td>
<td>Where and when does this happen the most? (in class? at lunch? at recess? out-of-school social gatherings?)</td>
</tr>
<tr>
<td>What do other students do when a positive social peer includes someone who is not well-liked by others?</td>
<td></td>
</tr>
<tr>
<td>Are some positive social behaviors easier/harder than others?</td>
<td>What makes positive social behaviors easy or hard to do?</td>
</tr>
<tr>
<td>Is it easier to see/do positive social behaviors at school? at home? online?</td>
<td></td>
</tr>
<tr>
<td>Is it easier to see/do positive social behaviors in private? with only friends around? in front of people the person doesn’t know well?</td>
<td></td>
</tr>
<tr>
<td>What do other students do when a positive social peer stands up or befriends someone who is not well-liked by others?</td>
<td></td>
</tr>
<tr>
<td>How are positive social actions perceived by others? Are they recognized? Are they rewarded/punished in any way?</td>
<td></td>
</tr>
<tr>
<td>Performers and Recipients of Prosocial Behavior</td>
<td>What types of students are more likely to perform positive social behaviors? Describe them.</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Which students most likely to receive positive social behaviors?</td>
<td>Do most positive social behaviors happen without someone asking for help? Are there any situations in which students are likely to ask for someone to perform a positive social behavior on their behalf?</td>
</tr>
</tbody>
</table>
APPENDIX D

FOCUS GROUP SCRIPT

[PREPARATION] Move desks into a u-shape so everyone can see each other

[INTRODUCTIONS] After students are seated… (1.5 m) est. : actual :

Moderator (Shereen):
Hello, I hope everyone is having a good day so far. Today’s class is going to be a little different from our usual lessons. For the past few months, we have been talking a lot about the small and big ways we can try to bring out the best in ourselves and those around us. Today, we will be having a conversation about some of those ideas, but in more detail.

Research Assistant (Talia):
Hi everyone, my name is Talia. You may recognize me from the times I come in to help Shereen out in the classroom during your Second Step lessons. Today, Shereen and I are looking forward to hearing about your lives at school and the time you spend with your friends.

Moderator (Shereen):
On many occasions, you have shared that the best part of school is getting to spend time with your friends. Today we want to learn more about the positive ways you with your friends and classmates, including what are the best and most important ways interact that you can positively impact those around you.

Research Assistant (Talia):
Before we get started, I want to let you know a few things. First of all, whatever you say here will remain confidential. That means that we will not tell anyone what was said here by individual name, but we may share the information that you give in general. So for example if one person said they liked apples, someone else said they liked bananas, and a third person said they liked mangoes…we would not mention who liked what but might say that after talking to the group, we think that students at this school like fruit. Does that make sense?

Moderator (Shereen):
It also means that all of you agree not to share the comments made here with other people outside of this group. It is extremely important that we all understand the importance of confidentiality since it will help everyone feel more comfortable and safe sharing their opinions and perspectives.
Research Assistant (Talia):

The second important thing to know is that we will be audio recording this focus group. The only reason we are using a recorder is to make sure we do not miss anything that is said as we move through the conversation. Each of your opinions and perspectives is very important (and probably very different from others in the group) so we want to make sure that we learn from the experiences shared by everyone. The tapes will be kept in a safe place and no one will ever be able to connect anything you said to your name. If we ever do want to repeat something that you have said, we will be very careful to use a fictional or made-up name. Does everyone understand that we will NOT be using the tapes to identify you later on and so once again, everything said here is confidential?
APPENDIX E

FOCUS GROUP GROUND RULES

Moderator (Shereen):

The last thing to cover before we get started are a few ground rules to make sure things go smoothly.

1. First of all, as you can see, there are a lot of voices here. We want you to do the talking. Just like in class, we would like for everyone to participate and we may call on you if we haven’t heard your perspective in a while. At times, we might ask every person and go around in the circle. You can say “pass” if you do not want to share, but we hope you will consider sharing if you have something to say!

2. There are no right or wrong answers. Every person has had different experiences at this school and with friends. Don’t worry about what we think or what others in the group think about the topic. There may be overlap with other students saying similar comments. That’s okay! We want to hear from you about your experience.

Research Assistant (Talia):

3. Do not use names. If you talk about a specific interaction or story with people from the school, we prefer you use the strategy that we use in class (replace the name with “Jack” or “Jill”) or say what “someone” did for “someone” else. Whether it is a kind or harmful behavior, please be careful to avoid mentioning any names.

4. Just like in class, we will need to be mindful of each other, taking turns talking and being careful not to interrupt. Additionally, please try to be intentional about allowing others a chance to talk if you have already responded to the question. If you notice someone is having a hard time answering a question, please try to give them enough time to work through their words and avoid jumping in to finish their sentence or interrupting with a different thought.

Moderator (Shereen):

5. What is said in this room should stay here. We already discussed confidentiality but thought it was important to say one more time. Please do not share information that is shared during this conversation with anyone outside of this group. We will not be sharing any of the stories you share about yourself or others with administration or teachers unless you indicate that you or another person is in danger or was seriously harmed. In those cases, we are required to let your school administration know.

6. Lastly (and most importantly), let’s have fun! It is rare we get to relax and talk about the good things we do for one another and the things that make our social interactions better.
Let’s try to take advantage of an opportunity to highlight our individual and collective strengths!
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