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Approval of the Dissertation

This dissertation, Staying Positive: Using a Positive Youth Development Framework to Explore the Contribution of Ecological and Individual Assets to Youth Development, has been approved by the Graduate Faculty of the Curry School of Education and Human Development in partial fulfillment for the degree of Doctor of Philosophy.

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STAYING POSITIVE:

USING A POSITIVE YOUTH DEVELOPMENT FRAMEWORK TO EXPLORE THE CONTRIBUTION OF ECOLOGICAL AND INDIVIDUAL ASSETS TO YOUTH DEVELOPMENT

A Dissertation

Presented to

The Faculty of the Curry School of Education

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Doctor of Philosophy

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by

Theresa N. Melton, M.Ed.

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DEDICATION

I dedicate this dissertation to the Melvis family, who have been a consistent source of support and inspiration. Chris, Kaeli, and Jaylen - you force me to be the best version of myself because you deserve nothing less. Being part of your family unit is a privilege, and I am so lucky for the opportunity to see all of the amazing things you accomplish. You will never understand how proud I am to be your bonus adult.

I also want to dedicate this work to any students who may feel like they don't belong in "academic" spaces or question their ability to make valuable contributions. Academia is a space for *everyone* and all of our voices matter. We can do amazing things.

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Staying Positive:

Using a Positive Youth Development Framework to Explore the Contribution of Ecological and Individual Assets to Youth Development

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Development occurs as individuals interact with the world around them (Lerner et al., 2010; Varga & Zaff, 2018). For decades, researchers (Benson, et al., 2007) have been working to better understand these interactions with the underlying goal of using this information to improve outcomes for youth. In the 1990's, several individuals realized that building from youth's strengths was a more effective approach in promoting youth development in positive ways, while still deterring behaviors deemed problematic (Hamilton, Hamilton, & Pittman, 2004). This strengths-based approach to youth development, often referred to as Positive Youth Development (PYD), has since grown in popularity amongst researchers (Damon, 2004), and is the framework applied throughout this dissertation.

Defining Positive Youth Development

PYD is a developmental systems framework, which asserts that individuals develop through bidirectional relationships with their environment, which is nested within multiple contexts (Varga & Zaff, 2018). The concept of PYD is typically defined in three different but related ways (Lerner, et al., 2012; Benson, et al., 2007). PYD refers to the philosophy of youth development programs, which seek to prepare youth to become successful adults. PYD is also the term used to describe the positive outcomes that are identified as important during youth development. Finally, PYD refers to a developmental process, or model, used to examine and explain "intraindividual change and interindividual difference in intraindividual change across the lifespan" (Lerner, et al., 2012, p. 366).

As a model for development, PYD is used to examine mechanisms that drive changes within an individual over their lifetime and to help explain why there are variations in the ways in which individuals develop. A foundational assumption within this developmental framework is that plasticity, or the possibility for change, is a "...strength of human development" (Lerner, et al., 2012, p. 366). As demonstrated in Figure 1, development occurs as individuals engage in bidirectional relationships with people within the multiple layers of their environment (Lerner, et al., 2010). This relationship between an individual and their environment coordinates the "course of development (its pace, direction, and outcomes)" (Lerner, et al., 2012, p. 366).

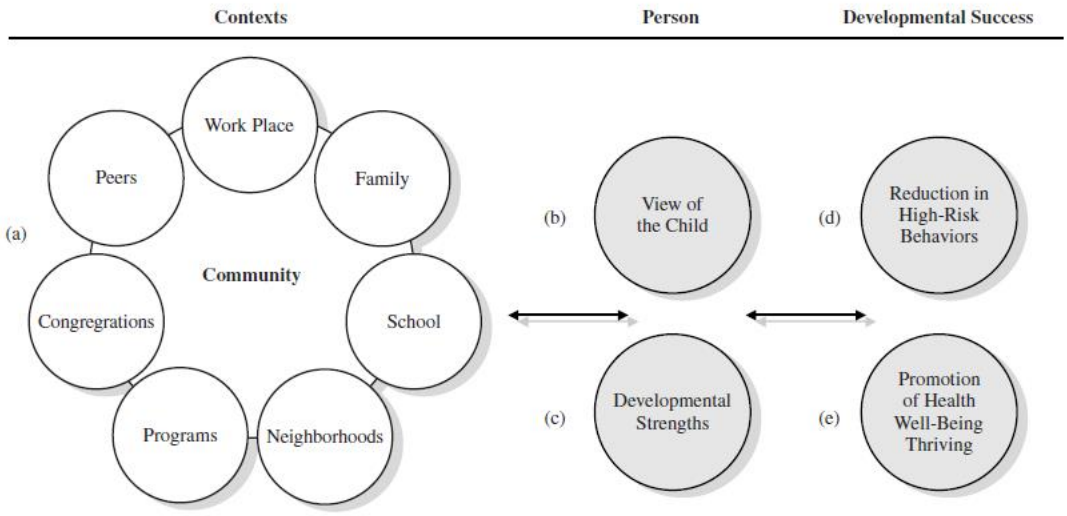

Figure 1. Core concepts of PYD
Source. Benson, et al. (2007).

One's ability to change, or develop, however, does not necessarily guarantee that change will happen in a positive direction. According to a key principle of PYD, "a positive developmental trajectory is enabled when youth are embedded in relationships, contexts, and ecologies that nurture their development" (Benson, et al., 2007, p. 896). As a result, the goal of development, based on a PYD framework, is to promote qualities within an individual that contribute to an individual's ability to thrive (Hamilton, Hamilton, & Pittman, 2004). These

positive characteristics are developed when assets available within a youth's ecological context (external assets) are aligned with assets available within the individual (internal assets; Benson, et al., 2007). For example, the Five C's model of PYD holds that promoting competence, confidence, character, caring, and connection will encourage youth to contribute in positive ways to their environment and to "thrive" (Lerner, et al., 2012).

In this dissertation, a PYD framework is adopted in order to further examine the role of assets, both within the individual (internal assets) and within an individual's ecology (external assets), with the goal of exploring how internal assets change across adolescence, the mechanisms by which external assets can influence youth trajectories, and the ways in which external assets across a youth's ecology together influence development of positive characteristics associated with thriving, such as the Five C's of PYD.

Internal Assets

An underlying principle of PYD is the idea that all individuals have inherent strengths and should have access to opportunities (Hamilton, Hamilton, & Pittman, 2004); when an individual's ecology is structured in a way that is appropriately aligned with their strengths, positive qualities develop which promotes further positive development (Lerner, et al., 2011). Assets within the individual, or internal assets, include characteristics such as skills, values, or abilities that enhance the probability of positive development (Benson, Scales, & Syvertsen, 2011).

One internal asset of critical importance during adolescence is self-esteem. Self-esteem impacts the way in which individuals view themselves (DuBois, et al., 1996) and act in social situations with others (Rentzsch, Wenzler, & Schutz, 2016), and is therefore critical during development. Unfortunately, research seems to suggest that self-esteem drops during the critical

developmental period of adolescence (Chung, et al., 2017), especially for girls (Fu, et al., 2017). Recently, however, these findings have been challenged, as more contemporary studies have demonstrated that this essential internal asset may not trend in previously assumed ways (Esnaola, et al., 2018). In Paper 1, *Making Sense of Mixed Results: Trajectories of Change in Self-Esteem Domains Across Adolescence*, I address these mixed results by examining trajectories of self-esteem for girls across adolescence, exploring differences in self-esteem trajectories based on domain.

In this paper, I applied Latent Growth Curve Analysis, which allows for the examination of individual differences in overall trajectories. Five domains of self-esteem were measured at the start of 7th grade, at the end of 7th grade, and five years later, as most participants were graduating high school. Conditional Latent Growth Curve Analysis was also applied to examine whether there were differences in self-esteem trajectories based on race. Although no differences in trajectories were found based on race, findings revealed aspects of both stability and instability across adolescence; different domains of self-esteem appeared to be less stable during adolescence. School, family, and global self-esteem decreased across time, whereas peer and body image self-esteem stayed consistent. Additionally, individuals with higher levels of self-esteem tended to have lower rates of change, and middle school was identified as a critical timepoint in which self-esteem scores were most likely to change for adolescent girls. These results provided important information on self-esteem development for adolescent girls and indicated that not all self-esteem domains change at the same rates during adolescence, which suggests that some domains may be more salient during this period of development. When discussing self-esteem across adolescence, it is important to specify which domain is being affected or targeted. In addition, middle school was implicated as an ideal period for an

intervention targeting self-esteem, as increases in self-esteem obtained during middle school are likely to persist across high school.

Environmental Assets

External assets include positive characteristics of an individual's ecology, such as positive relationships and resources (Benson, Scales, & Syvertsen, 2011). Many researchers argue that one of the most important relationships during development is that between a parent and child (Zhang, et al., 2018). Throughout adolescence, parents remain an important source of support for youth (Muscarà, et al., 2018). Several researchers have demonstrated the direct relationship that exists between parental supervision and a number of youth outcomes, including substance use (Burlew, et al., 2009), criminal behavior (Harris-McKoy & Cui, 2013), and academic performance (Stutz & Schwarz, 2014). During adolescence, however, youth tend to push for more autonomy (McElhaney, et al., 2009), and their needs for supervision change (Keijsers, et al., 2012). In addition, youth's social networks expand as they develop, and they begin to interact with adults and peers across multiple contexts (Zhang, et al., 2018).

In Paper 2, *Putting Parental Supervision in Context: Taking an Assets-Based Approach in Examining the Role of Parental Supervision in Adolescence,* I explored the mechanisms by which parental supervision impacts youth development during adolescence. Specifically, I applied the theory of Positive Youth Development to examine whether perceptions of parental supervision functioned as a proxy for the perception of supportive relationships within a family context. I also examined whether additional external assets, such as supportive relationships with individuals in school settings and with peers, moderated the relationship between supervision and youth outcomes.

The results of mediation analysis revealed that family support partially mediated the relationship between perception of parental supervision and future aspiration and self-control, two characteristics that have been associated with youth thriving (Schmid, Phelps, & Lerner, 2011). Additionally, supportive relationships with an adult in school was found to moderate the relationship between parental supervision and self-control. Youth that received both higher levels of parental supervision and higher levels of support from adults at school reported the highest self-control scores. This finding is in line with the theory that outcomes continue to improve with each additional external asset available within a youth's ecology (Benson, Scales, & Syvertsen, 2011). Taken together, results of the mediation and moderation analysis provide evidence that external assets, such as supportive family relationships and support from adults at school, contribute to positive development. These findings speak to the importance of considering an individual's broader ecology when examining approaches to promoting positive development and in studies of youth relationships, moving beyond studying dyads and embracing an ecological approach to better understand a youth's entire system of support.

Relationships Across the Ecological System

At the heart of PYD is the idea that youth develop within nested ecological systems; youth's environments include multiple contexts and broad social networks with which youth interact on a regular basis (Lerner, et al., 2010; Varga & Zaff, 2018). Youth are interacting with other youth and adults across multiple contexts, such as in school, afterschool, and community settings. As outlined in Figure 2, these interactions influence the ways in which youth interact with other people, and these interactions together guide development. Although research often looks at dyadic relationships, such as that between a parent and child (Branje, 2018), incorporating an ecological perspective, one that addresses the fact that relationships do not exist

in a vacuum, would provide meaningful information on youth development and the way contexts work together to promote positive characteristics.

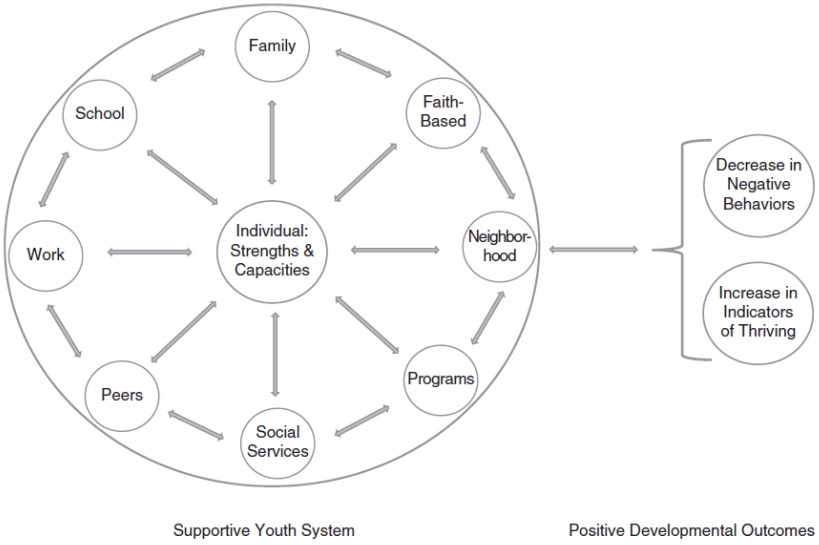

Figure 2. Model of a youth system, with multiple bidirectional relationships across multiple contexts, contributing to PYD.
Source. Zaff, et al. (2016).

In Paper 3, *Broadening the Perspective on Youth's Systems of Support: An Ecological Examination of Supportive Peer and Adult Relationships During Adolescence*, I examined the role of multiple external assets across six contexts of a youth's ecology in an effort to better understand how relationships with peers *and* adults change during adolescence. I also explored the association between aspects of a youth's system and positive qualities associated with thriving, such as the Five C's of PYD (Lerner, et al., 2005, p. 18). With the use of egocentric social network analysis, social network composition and outdegree centrality was compared by age group to determine how social networks differed across adolescence. In addition, Ordinary Least Square Regression was utilized to determine whether the makeup of an individual's ecological system predicted their development of positive qualities associated with thriving, such as the Five C's of PYD. Finally, qualitative analysis was utilized to determine which

individuals, peers or adults, provided support across adolescence, and to further explore what aspects of an adult contributed to a youth's decision to seek them out as a source of support, or ecological asset, within their system.

Results indicated that youth systems varied by individual, and that older youth reported significantly more adults in their social network than younger adolescents. Peers and adults held different roles, however, with peers functioning as the primary source of companionship, and adults providing informational support. The number of youth in a peer network was a significant predictor of character scores three years later, an important characteristic associated with the way in which youth connect with individuals within their network (Hamilton, Hamilton, & Pittman, 2004). Closeness with adults and larger networks, defined as having relationships across more contexts and with more people, were both predictors of contribution three years later. These findings speak to the fact that different relationships serve different functions in promoting youth development for adolescents, and that multiple relationships across multiple contexts are important in promoting positive development. Different assets in a youth's environment may encourage positive development in different ways, and a variety of sources of support may be important in developing the broad range of characteristics that are important in development. Finally, this paper provides advice for adults on how to best engage in meaningful relationships with youth, encouraging adults to respect adolescent autonomy and provide opportunities for youth to develop in meaningful ways as they reach older adolescence.

Conclusion

PYD offers a promising framework for strengthening contexts in which youth develop (Hamilton, Hamilton, & Pittman, 2004). In order to advance the ways in which researchers and

practitioners understand how to promote positive development, it is important to explore the role of assets along with the mechanisms that contribute to positive development from an ecological perspective. The three manuscripts presented in this dissertation provide an example of how researchers can examine the role of assets in youth development, considering aspects of the individual, ecological assets, and moving beyond studies of dyads to explore the contribution a youth's system of relationships can have on development. Findings from these papers, together, provide important information on the role of assets from a developmental perspective, including: information on ideal times during youth development where internal assets are most likely to be promoted, the mechanisms by which external assets contribute to youth developing important characteristics, and the complimentary roles multiple external assets have during adolescence. These papers also change the way we frame questions on development, relying on theory to guide research as we push to dig deeper in our attempts to better understand the complicated contexts that drive development. This information, although difficult to obtain, is essential in informing researchers and practitioners as they work to better align youth contexts with the needs and strengths of youth in an effort to promote positive development to ensure *all* youth thrive.

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Making Sense of Mixed Results:

Trajectories of Change in Self-Esteem Domains Across Adolescence

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Abstract

Individuals undergo significant change during adolescence, changes that encompass many facets of life (Lerner, et al., 2010; National Academies of Sciences, Engineering, and Medicine, 2019), and greatly impact identity development (Arnett, 2000). During this period, self-esteem is especially critical due to its influence on individual self-perception (DuBois, et al., 1996) and the way in which individuals interact with others (Rentzsch, Wenzler, & Schutz, 2016). Although self-esteem is often discussed in a global fashion, self-esteem has multiple domains (Gentile, et al., 2009). These domains vary in significance based on the developmental period and contribute to the mixed results found in the literature on self-esteem trajectories. This paper attempts to explore the stability of self-esteem for young girls across adolescence, capitalizing on data collected across 7th grade and after high school. Results of Latent Growth Curve Analysis indicate that self-esteem was generally stable across time, although school and global self-esteem tended to decrease across middle and high school. Individuals with higher levels of self-esteem tended to have lower rates of change. There were no differences in trajectory of change based on race. Considerations for potential interventions, and LGC as a potential method to allow for individual variability within examinations of group differences, are discussed.

Key words: Self-Esteem, Domains, Adolescence, Latent Growth Curve Analysis, Developmental Change

Introduction

Adolescence is a time where individuals go through significant development (Steinberg, 2014), and is a critical period for identity formation (Arnett, 2000). During this time, self-esteem is especially critical, as it impacts the way in which individuals judge themselves and those around them during a period when social comparison is especially impactful (National Academies of Sciences, Engineering, and Medicine (NASEM), 2019). Research has suggested, however, that self-esteem tends to drop during adolescence (Chung, et al., 2017), especially for young women (Fu, Padilla-Walker, & Brown, 2017), which can be concerning due to self-esteem's potential impact on development during this time.

Recently, however, research has emerged that appears to contradict previous findings that self-esteem drops during adolescence (Liu & Xin, 2014). Some research suggests that there is significant variability in trajectories of self-esteem related to both gender (Fu, Padilla-Walker, & Brown, 2017) and race (Peersen, et al., 2013). Other research suggests that initial levels of self-esteem can impact the rate of self-esteem change over time (Birkeland, et al., 2012). Differences in individual trajectory of self-esteem may also be related to specific domains of self-esteem (e.g., body image, academic), as specific contexts appear to be more salient during adolescence (Harter, 2000). For example, peers are becoming increasingly important as sources of support during adolescence (Zhang, et al., 2018), and therefore how one feels about their relationships with peers (i.e., peer self-esteem) may also become more important. Similarly, as youth begin to navigate romantic relationships, physical appearance may take on greater salience as a domain of self-esteem (Shulman & Scharf, 2000; Harter, 2000).

Given the critical role of self-esteem during adolescence, this study seeks to explore the trajectory of self-esteem during this time period. In the present study, Latent Growth Curve

Analysis was utilized to examine trajectories of self-esteem across adolescence based on self-esteem domain. Conditional Latent Growth Curve Analysis was also utilized to examine whether racial differences existed in trajectories across time, while still accounting for individual differences within racial groups.

Review of Literature

Adolescence as a developmental period is often characterized as a time during which individuals go through significant changes (NASEM, 2019). During this period, individuals experience development in autonomy (McElhaney, et al., 2009), socialization (Bowers, et al., 2014), identity formation (Arnett, 2000), and even brain anatomy (Steinberg, 2014). Positive development during this timeframe is, therefore, important for promoting positive behaviors as an adolescent, but also for ensuring a positive trajectory into adulthood (Huebner, Hills, & Jiang, 2013).

Although there are several topics of interest to researchers during this time frame, significant research has focused on self-esteem. DuBois, et al. (1996) define self-esteem as "…satisfaction or dissatisfaction with the self…" (p. 544). Self-esteem is, therefore, an evaluative process by which the self is judged based on values or standards. Additionally, self-esteem can be influenced by social interactions with other individuals (Keizer, Helmerhorst, & Gelderen, 2019) and social comparisons, which has specific importance during this developmental period (NASEM, 2019). For example, in a study of peer relationships, time spent with prosocial peers was associated with higher levels of self-esteem (Quimby, et al., 2017). Self-esteem is an especially critical aspect of development during adolescence, as it impacts the way in which individuals view themselves (DuBois, et al., 1996), and the way in which individuals act socially (Rentzsch, Wenzler, & Schutz, 2016) and relate and respond to others

(Fu, Padilla-Walker, & Brown, 2017). Several studies have also supported self-esteem as a protective factor against depression (Yoon, Cho, & Yoon, 2019; Ju & Lee, 2018), and it has been found to promote general well-being and prosocial behavior (Zuffiano, et al., 2013).

Domains of Self-Esteem

Although individuals may speak of self-esteem in a global sense, many researchers (DuBois, et al., 1996; Gentile, et al., 2009; Harter, 2000) agree that self-esteem consists of multiple domains, such as peers, school, family, body image, sports, and global self-worth (Wild, et al., 2004). Different experiences may impact some domains of self-esteem, especially in domains of particular importance to an individual, while other domains may not be affected by the same experience (Harter, 2000). For example, an interaction with friends may impact peer self-esteem, but not impact body image self-esteem or family self-esteem (DuBois, et al., 1996). In addition, self-esteem in a specific domain does not always predict global self-esteem (Harris, et al., 2018), indicating that different domains may have different trajectories across development. For example, self-esteem impacted by interactions with peers and peer acceptance may be more salient during adolescence, when peers become more important as a source of support (Tetzner, Becker, & Maaz, 2017). Peer self-esteem, therefore, could be more unstable during this period of development, while other domains may remain unchanged.

Developmental Trajectories of Self-Esteem

Several researchers (Gentile, et al., 2009; Chung, et al., 2017) have presented evidence that self-esteem tends to drop during adolescence (Fu, Padilla-Walker, & Brown, 2017; Harter, 2000; Harter & Whitesell, 2003). Yet research also indicates that these drops do not occur evenly for all youth. Human development, in general, is fueled by social interactions (Rogoff, 2003; Varga & Zaff, 2018). Therefore, it is not surprising that youth with different social

positionings (i.e., race, gender) may experience different trajectories of self-esteem. Our social identities influence the contexts in which individuals live, the interactions that occur within those contexts, and the ways in which individuals perceive and interpret those interactions (Williams & Deutsch, 2016; Shirk, Burwell, & Harter, 2003; Spencer, 1995), all of which impact self-esteem. In line with this, researchers have found evidence that girls tend to have lower self-esteem than their male counterparts (DuBois, et al., 1996; Maldonado, et al., 2013; Fu, Padilla-Walker, & Brown, 2017). Differences in self-esteem have also been established based on race (Peersen, et al., 2013), with African American youth consistently reporting higher levels of self-esteem (DuBois, et al., 1996). This racial difference is often explained by the protective role racial-ethnic identity and healthy views of group membership can have on youth self-esteem (Aoyagi, Santos, & Updegraff, 2018).

Recent studies (Kiviruusu, et al., 2015; Liu & Xin, 2014), however, have contradicted previous work, finding that self-esteem increases across adolescence, especially after the start of high school (Esnaola, et al., 2018). These mixed results may be related to differences in domains of self-esteem (Gentile, et al., 2009). Self-esteem is related to experiences within specific contexts and, as a result, each domain may follow a different trajectory across the lifespan (Białecka-Pikul, et al., 2019). In addition to differences related to self-esteem domain, some researchers propose that self-esteem overall is stable for some individuals, while unstable for others (Harter & Whitesell, 2003). Related to this, research suggests that variance in self-esteem trajectories is related to initial levels of self-esteem; self-esteem is more stable for individuals with higher levels of self-esteem but declines for those that have lower self-esteem initially (Birkeland, et al., 2012).

Many researchers agree that interactions with individuals are key mechanisms for development (Lerner, et al., 2010; Varga & Zaff, 2018). Self-esteem, which impacts an individual's self-perception (DuBois, et al., 1996) and the ways in which they interact with others around them (Fu, Padilla-Walker, & Brown, 2017), is critical during this process. Therefore, this paper seeks to further examine trajectories of self-esteem for girls during adolescence, both considering the domain and exploring differences based on race in an effort to make sense of the mixed results present in the literature. Specifically, this paper will address the following questions:

1. Does self-esteem vary across time for adolescent girls?
2. Do self-esteem trajectories differ based on self-esteem domain?
3. Do self-esteem trajectories differ based on race?

Methods

Participants

This study draws on data collected as part of a longitudinal study of the Young Women Leaders Program (YWLP; Lawrence, et al., 2011), a combined group and one-on-one mentoring program for 7th grade girls. Study participants were nominated by their school counselors based on exhibiting both a risk of negative academic, social, emotional, or behavioral outcomes and the potential for positive leadership skills. After nomination, girls were assigned by the researchers to either the program (YWLP) or control groups.

A total of 360 7th grade girls (mean age = 12) participated in a study of YWLP beginning in the 2007-2008, 2008-2009, or 2009-2010 school years. A total of 154 youth were assigned to participate in YWLP, while 141 were assigned as a control. Sixty-five participants were missing an original assignment. Self-reported surveys were administered at the beginning (pre-test) and

end of programming in 7th grade (post-test), then again five years following programming (follow-up), when the majority of girls were graduating from high school. Surveys covered a range of academic and socio-emotional constructs.

A total of 169 youth (60 control, 106 treatment, and three missing original assignment) participated in the five-year follow up survey. In the original sample at pre-test, 29% of youth identified as White, 42% as African American, 2% as Asian American, 6% as Hispanic, and 21% as Other. In the longitudinal follow-up data, 29% identified as White, 49% as African American, 2% as Asian American, 11% as Hispanic, and 7% as Other. Results of a chi-square test confirmed that there was no significant difference between treatment and control assigned youth on attrition from the five-year follow-up study. Participants missing from the follow-up were not significantly different on any pre-test measures ($p > .05$). In addition, results of Little's Missing Completely at Random (MCAR) test (Li, 2013) suggested that data were missing at random. As a result, Full Information Maximum Likelihood (FIML) estimates were utilized to handle missing data during latent growth curve model estimation.

Measures

Self-Esteem. Self-report questionnaires utilized the early adolescent self-esteem scale by DuBois, et al. (1996) to measure self-esteem in a global sense and across 4 specific domains: peer, school, family, and body image. Peer, school, family, and global self-esteem were measured with eight items, while body image was measured with only four. Items include questions such as "I am as good as I want to be at making new friends" (peer self-esteem), "I'm as good a student as I would like to be" (school self-esteem), "I am happy about how much my family likes me" (family self-esteem), "I am happy with the way I look" (body image self-esteem), and "I am happy with the way I can do most things" (global self-esteem). Participants

were asked to rate their self-esteem on a 4-point Likert scale ranging from 1 (Strongly Disagree) to 4 (Strongly Agree). Negative items were reverse coded, and items were averaged to obtain an average response for each domain. Higher values of each scale represent higher self-esteem endorsements in that specific domain.

Table 1

Descriptive statistics for self-esteem scale by domain and time point

	Chronbach's α	M	SD	Min	Max	n
			Pre-Test			
Peer	.82	25.87	4.09	12	32	295
School	.88	25.72	3.93	10	32	308
Family	.84	27.29	4.38	9	32	298
Body Image	.76	12.00	2.99	4	16	310
Global	.86	25.94	4.24	12	32	307
			Post-Test			
Peer	.89	25.92	4.16	11	32	279
School	.91	24.84	4.49	12	32	290
Family	.86	26.87	4.69	8	32	279
Body Image	.82	12.10	3.08	4	16	289
Global	.89	25.91	4.52	10	32	281
			Follow-Up			
Peer	.83	25.52	4.07	14	32	141
School	.84	23.73	4.62	12	32	140
Family	.87	26.57	4.43	11	32	139

Body Image	.85	11.90	3.23	4	16	138
Global	.87	25.02	4.93	8	32	142

Table 2

Intercorrelations of each scale by domain and time point

	Peer	School	Family	Body Image	Global
			Pre-Test		
Peer	1				
School	.52***	1			
Family	.50***	.43***	1		
Body Image	.50***	.36***	.41***	1	
Global	.72***	.52***	.62***	.68***	1
			Post-Test		
	Peer	School	Family	Body Image	Global
Peer	1				
School	.53***	1			
Family	.50***	.48***	1		
Body Image	.54***	.43***	.44***	1	
Global	.74***	.64***	.69***	.71***	1
			Follow-Up		
	Peer	School	Family	Body Image	Global
Peer	1				
School	.62***	1			

Family	.49***	.40***	1		
Body Image	.51***	.50***	.35***	1	
Global	.70***	.63***	.53***	.77***	1

Note. *** p < .001; ** p<.01; *p<.05

Race. Although participants of other races were included in the sample, the group sizes were too small to allow for comparisons. As a result, one variable was developed to indicate whether a participant identified as White, African American, or "Other". In the final sample, a total of 88 individuals (24.4%) identified as white, while 126 individuals (35.0%) identified as African American.

Analysis

Conditional latent growth curve analysis was applied to explore potential differences in self-esteem trajectories based on level of treatment received, but no programmatic effects were detected. As a result, the sample was treated as a single group for all remaining analysis. In order to measure participant trajectories across timepoints, second-order Latent Growth Curve (LGC) analysis was utilized. A benefit to using second-order LGC is that multiple indicators are incorporated into the model to account for potential measurement invariance within the model (Geiser, 2013). Second-Order LGC models provide an approach to analyzing longitudinal data that allows researchers to look at individual trajectories over time (Kline, 2015). Within this analytical framework, researchers can examine whether scores change over time, whether there is significant individual variability across samples, even if comparing by group, and whether there is a relationship between average self-esteem score and rate of change.

A conditional LGC model was also utilized to determine whether rates of change varied based on race (Geiser, 2013). This approach introduces covariates to test for different

trajectories by group, but still allows researchers to test for individual differences within each group with regard both to average score and slope of individual trajectory. Allowing for researchers to examine individual variation within a group comparison is an important step in research on adolescent development (Williams & Deutsch, 2016), and is a strength of this approach. A "no change" model, with slope estimated to be zero, was also examined. The no change, unconditional, and conditional LGC models were estimated for each of the five domains of self-esteem. Model fit indices were then evaluated to identify the best-fitting model for each domain. Examples of the unconditional and conditional models are presented in Figure 1 and Figure 2. Analysis were conducted using MPlus software. Additionally, independent sample t-tests were utilized to examine group differences when suggested based on the results of the conditional LGC models.

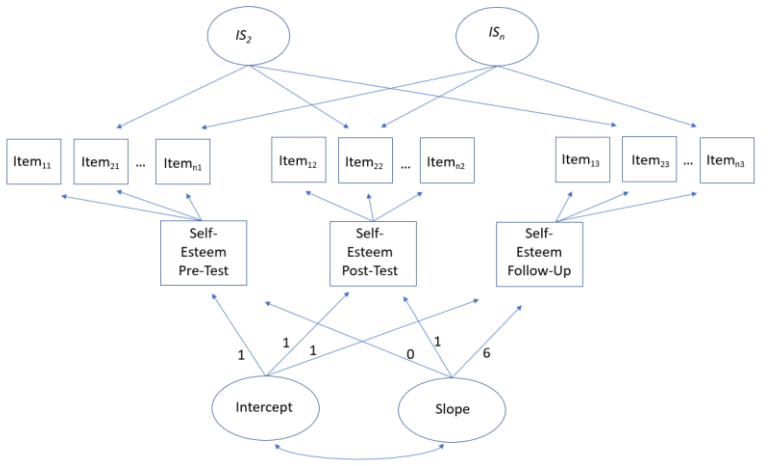

Figure 1. Unconditional second-order LGC model of self-esteem trajectory across pre-test, post-test, and follow-up time points.

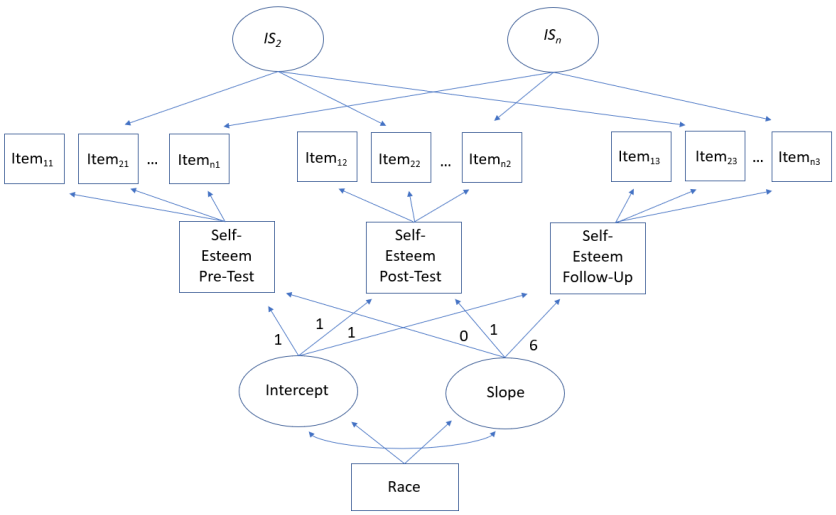

Figure 2. Second-Order LGC model of self-esteem trajectory across pre-test, post-test, and follow-up time points, conditioned on race.

Finally, autoregressive models were also utilized to estimate the degree of stability over time for global self-esteem and each domain. With this approach, the self-esteem scores at post-test were regressed onto pre-test scores. Follow-up scores were then regressed on the scores at post-test and pre-test. This method allows for further analysis of stability over time, and also provides information as to when instability occurs.

Results

A number of model fit indices were reviewed to assess the best fitting model, including SRMR, RMSEA, CFI, (Wu, West, & Taylor, 2009), AIC and BIC (Geiser, 2013). For a good model fit, an SRMR and RMSEA should fall below .05, with smaller scores indicating better fit. A CFI score should be greater than .95, and smaller scores for AIC and BIC indicate a relatively better fit (Geiser, 2013). In addition, visual inspections of the estimated and observed means, as well as observed and estimated trajectories, were conducted. The model fit indices are presented in Table 3.

Table 3

Model Fit Indices for No Change, Unconditional, and Conditional LGC Models

	Model	CFI	AIC	BIC	RMSEA	SRMR
Peer Self-Esteem	No Change	.92	11,720.11	12,028.05	.05	.10
	Unconditional	.92	11,723.29	12,038.93	.05	.10
	Conditional	.92	12,374.03	12,705.32	.05	.10
School Self-Esteem	No Change	.84	12,895.13	13,203.07	.07	.11
	Unconditional	.84	12,895.68	13,211.32	.07	.10
	Conditional	.83	13,547.02	13,878.31	.07	.10
Family Self-Esteem	No Change	.92	10,909.50	11,217.44	.06	.18
	Unconditional	.93	10,880.80	11,196.45	.06	.13
	Conditional	.92	11,532.67	11,863.96	.06	.13
Body Image Self-Esteem	No Change	.96	6,737.73	6,868.60	.06	.13
	Unconditional	.96	6,733.77	6,872.35	.06	.10
	Conditional	.96	7,383.96	7,538.04	.05	.10
Global Self-Esteem	No Change	.92	12,036.79	12,344.73	.05	.10
	Unconditional	.92	12,029.54	12,345.18	.05	.09
	Conditional	.92	12,680.71	13,012.00	.05	.08

Peer Self-Esteem

Based on model fit indices (Table 3), as well as a visual inspection of the sample and estimated means, the no change model was best fitting, although the unconditional model fit relatively well. As indicated in Table 4, the average response on peer self-esteem items was

3.59, and there was significant individual difference around the average score at pre-test. The slope value, which was negative, was not significant, indicating that there was no significant change in peer self-esteem over time. There was not significant variance around the slope term. Between 48% and 64% of the observed differences in scores was accounted for by the latent growth factors.

School Self-Esteem

The unconditional linear model was best fitting for school self-esteem. There was significant variance around the mean and an average slope of -.04 which was significant ($p = < .001$), suggesting a gradual decline over time for the sample overall. The variance of the slope was not significant, which indicated that there was not significant variance around the rate of this change. Between 45% and 57% of the observed differences in scores was accounted for by the latent growth factors.

Family Self-Esteem

Based on model fit indices, as well as a visual inspection of the sample and estimated means, the unconditional model was best fitting. There was significant variability around the mean at pre-test. The average slope of -.02 was significant, and there was not significant variation in slope for the sample. Between 46% and 67% of the observed differences in scores was accounted for by the latent growth factors.

Body Image Self-Esteem

The no change model was better fitting overall, although the unconditional model also fit relatively well. The average response for body image self-esteem was 2.80 at pre-test, although there was significant variance around that mean. Although there was a slight change, the slope was not significant, and there was not significant variance around the slope. There was a

negative relationship between the intercept and slope ($r = -.40$, $p < .001$), however, indicating that higher scores tended to have smaller slope values. Between 68% and 87% of the observed differences in scores was accounted for by the latent growth factors.

Results of the model conditioned on race indicated that African American girls scored significantly higher ($p = .002$) on average body image self-esteem. This difference was examined using independent sample t-tests. Findings indicated that African American students scored, on average, 1.08 points higher on body image self-esteem at pre-test ($p = .005$). Although there was no significant difference at post-test, African American girls scored significantly higher at the five-year follow-up ($p = .009$), with African American girls scoring, on average, 1.47 points higher than participants that did not identify as African American.

Global Self-Esteem

The unconditional model was best fitting for global self-esteem. On average, the slope was negative (-.02), with scores, on average, declining over time. There was significant variance in the slopes, however, which indicated significant variation in the rate of change for global self-esteem across participants. The slope and intercept were negatively correlated ($r = -.34$, $p < .001$), indicating that youth with higher scores in global self-esteem experienced smaller declines in self-esteem across time. Between 63% and 86% of the observed differences in scores was accounted for by the latent growth factors.

In the model conditioned based on race, white participants scored significantly lower ($p = .043$) on global self-esteem than participants that did not identify as white. These results were examined with independent sample t-tests. Results indicated that white participants scored significantly lower ($p = .023$) on global self-esteem at pre-test, with white participants scoring, on average, 1.322 points lower than participants that did not identify as white. Although there

was no significant difference at post-test, there was a significant difference at five-year follow-up (p = .045). At follow-up, white participants scored, on average, 1.786 points lower than participants that did not identify as white.

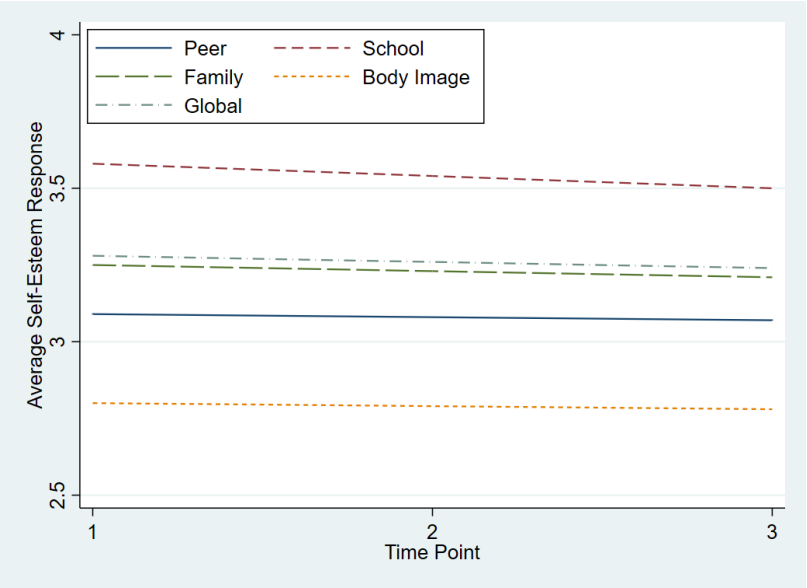

Figure 3. Trajectories of self-esteem by domain based on best fitting model estimates.

Table 4

Results from Best Fitting LGC Models for Each Self-Esteem Domain

S.E. Domain	Intercept		Slope		R^2
	Mean	Variance	Mean	Variance	
Peer	3.09***	.14***	-.01	.002	.48 - .64
School	3.58***	.12***	-.04***	-.002	.45 - .57
Family	3.25***	.20***	-.02*	.002	.46 - .67
Body Image	2.80***	.39***	-.01	.011	.68 - .87
Global	3.28***	.14***	-.02*	.009*	.63 - .86

Note. *** p < .001; ** p<.01; *p<.05

Autoregressive Models

The results of the autoregressive models suggested that there were aspects of both stability and change in self-esteem across adolescence (See Table 5). For all domains other than family self-esteem, five-year follow-up scores were significant predictors of scores at the end of 7th grade (post-test). This indicates that, generally, individuals that scored high at the end of 7th grade maintained high scores through high school. Follow-up scores were not significant predictors of scores at the beginning of 7th grade (pre-test), however. This finding demonstrates that individuals with high self-esteem at the start of 7th grade did not necessarily maintain their high self-esteem score across time. Since post-test scores maintained stable from the end of 7th grade through high school, this provides some evidence that scores are more likely to change during middle school, but not during high school, for all domains other than family self-esteem. Family self-esteem was less stable across high school than other domains. Generally, effect sizes for family self-esteem at post-test and five-year follow-up were small (R^2 = .043 - .378) which confirmed a lack of stability. These findings suggest that family self-esteem is more likely to change across high school, though not necessarily across middle school. A medium effect size (R^2 = .519) was found for post-test scores and a large effect (R^2 = .742) was found for five-year follow-up scores for body image self-esteem, suggesting that body image self-esteem is less likely to change across middle or high school than other domains.

Table 5

Results of Autoregressive Model at Pre-Test, Post-Test, and Follow-Up by Self-Esteem Domain

S.E. Domain	Post on Pre	FU on Post	FU on Pre	R^2 Post	R^2 FU
Global	.62***	.60***	-.05	.38***	.32***
Body Image	.69***	.38***	.16	.52***	.74***

School	.57***	.31**	.17	.32***	.19**
Family	.57***	.06	.16	.32***	.04
Peer	.60***	.40***	.18	.36***	.27***

Note. Coefficients are standardized.
*** p < .001; ** p<.01; *p<.05

Discussion

The results of our analysis support prior findings demonstrating that self-esteem drops for girls during adolescence, although this varies by domain. Peer and body-image self-esteem remained stable, with no significant changes indicated. These findings were surprising, given the apparent salience of both domains during this time, and future research should examine this finding in a larger sample. School, family, and global self-esteem declined over time, however. These findings provide support that some domains may be more salient during adolescence and prone to change. For example, our findings suggested that school self-esteem declined during this period. Considering the role of school during adolescence, and literature that suggests school bonding (Oelsner, Lippold, & Greenberg, 2011) and motivation (Fredricks, & Eccles, 2008) drops during this time, especially upon the entry to middle school, a decline in school self-esteem is unsurprising. Additionally, a drop in family self-esteem during high school aligns with research that suggests adolescents push for more autonomy during this time (McElhaney, et al., 2009). Although results from previous studies of self-esteem across adolescence appear to be mixed, these mixed results may be due to variability in what domains of self-esteem are measured.

Although this study considered the level of self-esteem, there was no measure for other properties of self-esteem, such as whether self-esteem was dependent on external validation (Zeigler-Hill, Besser, & King, 2011). Vonk and Smit (2012) explain that, with extrinsic

contingent self-esteem, individuals rely on external events and feedback from others as a source of their self-esteem. This fragile state is associated with negative outcomes, especially compared to more intrinsic models where individuals adopt a growth mindset (Crocker & Knight, 2005). Not all experiences impact self-esteem in the same way; the more related specific events are to an individual's sense of self, the more impactful those experiences can be (Crocker, et al., 2006). Therefore, fluctuations in self-esteem within specific domains may also be a product of contingent self-esteem for individuals with stronger contingencies within those domains.

There was also significant individual variance, which suggests that it is important to understand both domain related differences and individual trajectories. The models in this study explained between 45% and 87% of the observed differences in scores. It is important to examine the causes for individual differences in self-esteem (Harter & Whitesell, 2003). Evaluating the role of additional predictors of both the average self-esteem scores and rates of change are important in working towards explaining more variation in the model. Based on the larger effect sizes, body image self-esteem appeared to be more stable over time, while other domains, such as family self-esteem, appeared less stable. In addition, results of the autoregressive models revealed that individuals with high self-esteem on all domains tended to remain high across 7th grade, while most individuals with low self-esteem remained low. This pattern remained when comparing self-esteem scores at the end of 7th grade to scores at the end of high school for all domains other than family self-esteem. Family self-esteem scores at follow-up did not predict scores at the end of 7th grade, indicating less stability across high school for this domain. Pre-test scores at the beginning of 7th grade were not consistent through the end of high school for any of the domains of self-esteem. This indicates that changes in global, body image, school, and peer self-esteem that occur across 7th grade can persist through

high school, while further research is important in better understanding the instability with family self-esteem during this time.

For body image and global self-esteem, there was a negative correlation between average self-esteem score at pre-test and magnitude of the slope, meaning that individuals with higher self-esteem scores had smaller slopes, or experienced less change, than individuals with lower self-esteem. These findings, taken together, point to some plasticity in self-esteem across adolescence; individuals with lower self-esteem are experiencing larger changes in self-esteem, and those changes typically occur during middle school. This appears to reflect earlier findings that middle school might be a critical time for self-esteem development (Fredricks & Eccles, 2008; Roeser, & Eccles, 1998), at least for some domains.

This malleability in self-esteem can be capitalized on with interventions that target self-esteem early, as it appears self-esteem itself is a protective factor in some ways, at least regarding drops in self-esteem later during adolescence. Shirk, Burwell, and Harter (2003) provide advice for interventions that aim to promote self-esteem, stating that interventions should address "pathogenic processes", such as unrealistic self-standards, inaccurate self-evaluation, undifferentiated self-structure, and inauthentic behavior (p. 198). Interventions that promote interactions with prosocial peers are an avenue that has been examined with promising results (Quimby, et al., 2017). One study exploring parental, sibling, and peer support during adolescence found that support impacted self-esteem as well, although the specific domains of self-esteem targeted were not specified (Guan & Fuligni, 2015). These findings provide evidence for some promising interventions that could promote higher levels of self-esteem during this period.

There was a significant difference in average body image and global self-esteem score based on participant race, with African American girls scoring significantly higher on body image self-esteem, and white girls scoring significantly lower than other races on global self-esteem. However, variance in individual self-esteem trajectories did not vary significantly based on racial group. These findings provide additional evidence that African American girls tend to report higher levels of self-esteem, although that may not be the case for all self-esteem domains. In our study, for example, African American girls did not score higher on any domain of self-esteem other than body image. Future research examining racial differences on self-esteem should be careful to specify the domain being utilized to ensure African American youth do not miss any potential interventions related to self-esteem domains on which they might benefit from support. In addition, efforts should be made to better understand what contributes to these racial differences in self-esteem in an effort to guide interventions to promote self-esteem for all youth.

Still, African American youth did report significantly higher scores on body image self-esteem. Ethnic identity, defined as a sense of belonging and a positive perspective of one's ethnicity, has been found to improve self-esteem and has been found to act as a protective factor (Fisher, et al., 2017). This impact can vary, however, based on the meaning an individual places on their group membership (Rowley, et al., 1998). Racial socialization, including racial pride and preparation for potential bias, was found to act as a protective factor in situations where African American youth experienced discrimination (Harris-Britt, et al., 2007). However, other finding have found that experiences with discrimination can have deleterious effects on self-esteem despite strength of ethnic identity (Zapolski, et al., 2019). Such factors may explain racial differences, although we were unable to test this directly in our sample.

Several researchers have posited that African American women report higher levels of body image self-esteem due to different standards of beauty and perceptions of what men from different racial and ethnic backgrounds view as an ideal body type (Molloy & Herzberger, 1998). However, it is also important to note that measures of body image self-esteem have historically been normed on populations of white women (Capodilipo, 2015). The construct of body image itself may hold a different meaning in different cultures. For example, the thin ideal often highlighted in measures of body image may not hold the same meaning for some women, while other characteristics, such as hair length and skin tone, may more meaningful in conceptions of body image self-esteem for some women (Capodilipo, 2015). Therefore, differences in body-image self-esteem may not reflect racial differences as much as issues of measurement. In order to further examine any racial differences in self-esteem by any domain, it is important to ensure measures are representative across multiple contexts and have been normed in diverse samples.

Limitations and Future Directions

This paper utilized longitudinal data to examine trajectories of self-esteem scores across middle and high school for adolescent girls. Self-esteem, however, was not the intended focus of the larger study from which this data were drawn. There were only three time points present in the current study, which prevented our ability to explore the potential for different trajectory shapes, such as cubic and quadratic trajectories. Additionally, participants for this study all came from the same geographic region. Although studies exist that measure self-esteem across multiple time points with nationally representative samples (Erol & Orth, 2011), few studies, if any, also include measures of self-esteem by subdomain. Future work should examine the trajectories of self-esteem subdomain in more diverse samples across. Multiple time points, potentially taken every year across middle and high school, would allow researchers to uncover

the specific shape of the trajectory and can improve model fit. There could potentially be cultural differences in the role of self-esteem, and more diverse samples should be utilized to explore this potential. In addition, there were multiple individuals with missing data. Although there was evidence that the data were missing at random, a more complete data set would provide more confidence in the results and would likely produce less biased estimates. Finally, including a measure of racial-ethnic identity development, or group membership, would allow researchers to directly test whether there is a moderating effect of racial-ethnic identity of self-esteem, or if such factors explain differences in self-esteem scores.

Conclusion

Research has presented mixed results on the trajectory of self-esteem across adolescence. Some research seems to suggest a drop (Chung, et al., 2017), while other research indicates an increase in self-esteem over early to late adolescence (Esnaola, et al., 2018). Results of this study indicates that both are plausible; some domains of self-esteem remain stable, while others are more prone to change. Research that suggests self-esteem drops during adolescence has given the impression that, overall, self-esteem is declining during this phase of development. Results of LGC analysis, however, clarifies that this is not the case for all students or all domains of self-esteem.

This paper also provides an example of a method that allows for individuals to look at group differences while still accounting for individual differences within a group. This is critical in research and evaluation work on youth development programs (Williams & Deutsch, 2016) and adolescent development more broadly. As a result, applying this method to program evaluations to test for heterogeneous treatment effects would be valuable. Self-esteem has been seen to promote overall well-being and to protect against negative life experiences, such as

depression (Yoon, Cho, & Yoon, 2019). In addition, self-esteem has been connected to an individual's perceptions of self as well as the ways in which they interact with others. Therefore, intervening during adolescence to ensure positive development on this critical construct seems imperative. Results of this study can help direct researchers on ways to capitalize on the instability within self-esteem to promote healthy development. Questions related to whether self-esteem is dropping across adolescent development are missing the complexity that exists within this construct. Self-esteem is both dropping and not dropping, depending on the youth and the domain. Better questions to drive the field forward ask *why* self-esteem is dropping for some youth and *how* to capitalize on the unstable nature of some domains of self-esteem to promote change in a positive direction.

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Putting Parental Supervision into Context:

Taking an Assets-Based Approach in Examining the Role of Parental Supervision During Adolescence

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Abstract

The relationship between parental supervision and a number of youth behaviors has been the focus of several studies (Liu & Chang, 2016). However, these studies often focus on the direct relationship between supervision and youth outcomes and fail to consider the broader ecology in which youth are developing. This paper examines parental supervision along with the ecological asset of supportive relationships, which have been identified as especially powerful assets (Benson, 2002). These factors are considered in relation to positive indicators that have specifically been associated with youth thriving: self-control and future aspiration (Schmid, Phelps, & Lerner, 2011). Results of a mediation analysis suggest that family support mediates the relationship between parental supervision and both indicators. In addition, supportive relationships with adults at school further promote the development of an important internal characteristic: self-control. Including aspects of the broader ecology in studies of youth development is essential to uncovering the role external assets play in promoting positive outcomes for adolescents.

Keywords: Parental Supervision, Ecological Assets, Positive Youth Development, Developmental Theory, Thriving

Introduction

Parental supervision has been identified as an important factor in reducing delinquency during adolescence (Coley & Hoffman, 1996). Indeed, although youth autonomy and separation from parents increases during adolescence, parents are still an important source of support and supervision. However, when we consider adolescence as a specific developmental time period, it is reasonable to consider that the salient features of parental supervision itself may change as youth try to assert autonomy but still need support (McElhaney, et al., 2009). Yet studies of parental supervision often treat parental supervision as if it occurs in a vacuum, failing to consider other potential assets that may exist within a youth's environment. This is particularly important in adolescence, as youth's social spheres increase and opportunities are available for support from a wider array of caring people (Varga & Zaff, 2018), such as peers (Stotsky & Bowker, 2018) and non-parental adults (Yu, et al., 2019). Therefore, in order to truly support healthy adolescent development, we must consider the broader ecology in which youth develop and must explore the mechanism by which positive outcomes are promoted.

In this study, the association between parental supervision and positive youth outcomes is tested in a model that includes other environmental assets. Results of this study thus have the potential to further our understanding of individual-environment alignment and the mechanisms by which ecological assets promote optimal development for adolescents.

Review of Literature

Parental Supervision

The impact of parental supervision on adolescent behavior has been studied extensively within the context of youth development (Cookston, 1999; Keijsers, et al., 2012; Harris-McKoy & Cui, 2013). Most studies of parental supervision assess the direct relationship between the

presence of parental supervision and adolescent delinquency (Coley & Hoffman, 1996, Benda & Corwyn, 1996, Chilcoat & Anthony, 1996). For example, recent research has examined the role of parental supervision in substance use (in spite of neighborhood risk; Burlew, et. al., 2009), access to deviant peers and negative peer influence (Keijsers, et. al, 2012), child obedience (Liu & Chang, 2016), criminal behavior (Harris-McKoy & Cui, 2013), and other forms of delinquent behavior (Lippold, Greenberg, & Collins, 2013). There are also some, though few, studies of parental supervision that have demonstrated a significant, direct relationship with positive youth outcomes, such as academic performance (Stutz & Schwarz, 2014).

Although both bodies of work provide information on the impact supervision can have on youth outcomes, fewer studies have focused on examining why parental supervision impacts youth outcomes and what external factors may impact the relationship between supervision and positive outcomes. Treating the parent-child relationship as if it exists independently of a youth's larger environment is not aligned with developmental theories, which highlight the interconnectedness of youth interactions within settings and the alignment of an individual's environment with their needs and strengths at a specific timepoint.

Parental Supervision During Adolescence

In adolescence, youth tend to push for more autonomy from their parents while they develop essential life skills (McElhaney, et al., 2009). Initially, in infancy, the role of a parent is to provide care and to protect children from physical harm. An individual's needs for physical supervision and control changes, however, as youth reach adolescence and proceed through the adolescent years (Keijsers, et al., 2012). As youth develop, the role of parents as protectors shifts away from physical means of protection, moving toward emotional support, with the goal of establishing security within youth. Researchers argue that "[t]his felt security can be felt in

numerous ways, often without the literal physical presence of the attachment figure" (McElhaney, et al., 2009, p. 359). Adolescents appear to need supervision, however, not in a way that they find controlling or that disrupts their quest for autonomy (Chango, et al., 2011). During this stage, other aspects of the parent-child relationship may thus be impactful, such as parental support (Milevsky, et al., 2007; Parker & Benson, 2004; Whitlock, 2006). McElhaney, et al. (2009) address the apparent paradox between an adolescent's push for autonomy and need for connection, stating that both work together.

These findings raise questions regarding the processes by which supervision influences youth development during adolescence (Chango, et al., 2011; Keijsers, et al., 2012). Monitoring youth behaviors has been deemed an "essential" parenting practice, however, this is primarily true when the parent-child relationship is trusting enough that adolescents disclose (Stattin & Kerr, 2000). Clearly the relationship between parental supervision does not impact youth outcomes in isolation; other factors, such as warmth (Lewin-Bizan, Bowers, & Lerner, 2010) and low levels of control (Stutz & Shwarz, 2014) appear to be important in ensuring positive outcomes for adolescents. Therefore, although it is important for adolescents to have parents act as a safety net while they explore their environments, *direct* supervision may be less important than *felt* security. In an effort to promote youth autonomy *and* felt security, it is important for youth to perceive parental attempts to supervise as a form of caring rather than control (Whitlock, 2006). Based on an ecological theory such as Positive Youth Development, optimal development occurs when the environment in which an individual develops is aligned with needs and strengths within the individual. Therefore, an environment in which relationships with parents and other important adults addresses a youth's need for support *and* autonomy may promote positive outcomes. Thus, it is possible that, for adolescents, parental support mediates

the relationship between parental supervision and youth outcomes, specifically outcomes associated with positive development.

Positive Youth Development and Ecological Assets

In addition to different components of the parent-child relationship, such as parental support, parental supervision also occurs within a broader ecology that contains other potential developmental assets that may also influence youth outcomes. Based on the early work of Bronfenbrenner (1989), Positive Youth Development (PYD) places the individual in the center of "nested contexts", some of which directly interact with the individual (i.e., school, peers, family), while others remain more distal (i.e., government policies) (p. 22). PYD takes a holistic approach to understanding this nesting of interactions, looking across contexts and the ways in which they intersect (Damon, 2004).

Applying the theory of Positive Youth Development to inform research on parental supervision can be helpful in explaining through what mechanisms supervision positively impacts youth development, and in exploring external assets that may impact those processes. An individual's context is considered "adaptive", or one that promotes positive development, when the interactions within an individual's ecology are beneficial (Lerner, et al., 2012). According to theories of PYD, the presence of ecological assets within one's ecology align with strengths within the youth to promote positive development (Damon, 2004). Ecological assets include access to resources, but one of the most important ecological assets comes from supportive individuals (Benson, 2002).

Access to supportive and caring individuals is an important ecological asset during adolescence (Yu, et al., 2019). A supportive parent-child relationship has been associated with several positive outcomes for youth, including academic achievement (Jeynes, 2007) and self-

esteem (Gentina, et al., 2018). Other sources of support exist in a youth's ecology, however. For example, Hombrados-Mendieta, et al. (2012) found that adults at school and peers are both important sources of support during adolescence. Other researchers have found evidence for the important role a non-parental adult can have in providing caring and support for youth and in promoting positive outcomes (Yu, et al., 2018; Theokas et al., 2005; Lerner, et al., 2005). In fact, several individuals argue that supportive non-parental adults are one of the most significant ecological assets available in a youth's environment (Benson, 2002). In addition, as youth reach adolescence, peers become a more important source of support (Colarossi & Eccles, 2003). Interactions with peers have been identified as an essential influence for identity development (Rassart, et al., 2012) and have been associated with increases in self-esteem (Colarossi & Eccles, 2003), adjustment (Stotsky & Bowker, 2018), and positive associations with school (Oriol, et al., 2017).

Central to the theory of PYD is the idea that these relationships do not occur independently; multiple relationships impact youth at the same time, and these relationships influence one another (Varga & Zaff, 2018). In a study of the relationship between parental monitoring and delinquent behavior, for example, family relationships, such as support and positive interactions with siblings, were found to act as an additional protective factor (Fosco, et al., 2012). These findings speak to the importance of considering a youth's broader ecology when examining developmental processes. Supportive relationships with family members, adults at school, and friends are also potential assets that can contribute to positive development for youth. When considering these relationships within an ecological model with parental supervision, it is possible that the presence of additional supportive relationships may moderate the association between parental supervision and youth outcomes.

The goal of this study is to apply the theory of PYD to the design, analysis, and interpretation of findings in a study of parental supervision during adolescence, highlighting the relationship between supervision and positive outcomes as it exists within the broader context of youth's lives. Specifically, PYD is used to examine the mechanisms by which supervision influences positive youth development by considering the potential impact of an ecological asset, in this case, supportive relationships. In this study, two positive outcomes are assessed: future aspiration and self-control. These two behaviors have specifically been found to predict later thriving and thus directly fit within the model of PYD (Schmid, Phelps, & Lerner, 2011).

We sought to examine (1) the relationship between parental supervision and positive outcomes for youth, (2) the potential mediating role supportive relationships within the family may have on the relationship between parental supervision and positive outcomes, and (3) whether the presence of additional ecological assets, social support from adults at school or from friends, moderates the relationship between parental supervision and future aspiration and self-control. Despite the large body of literature connecting parental supervision to delinquency, we hypothesize that parental supervision is also a predictor of outcomes associated with Positive Youth Development. Based on the important role of both parental support and youth autonomy, we also hypothesize that parental supervision impacts future aspiration and self-control indirectly, through the perception of supportive family relationships. Furthermore, based on the protective properties associated with external assets, such as caring non-parental adults, we suspect that access to additional ecological assets can moderate the relationship between parental supervision and these outcomes, promoting positive outcomes even when parental supervision is low.

Methods

Participants

A total of 289 adolescents ages 11 to 18 (M=14.05) were recruited from local schools, after-school programs, and community-based programs in a small to mid-sized city in the South East and its surrounding counties (Futch Ehrlich, et al., 2016). Youth participated in a survey that collected demographic information, information on the presence of an informal mentor, and measures of some individual (e.g. relational style) and ecological (e.g. support systems) assets. Fifty-seven percent of the sample identified as female, while 41.2% identified as male and 1.4% did not identify their gender. In addition, 35.3% of participants identified as Black/African American, 62.6% as White, 7.0% as Hispanic, 3.5% as Asian American, 4.2% as Native American/American Indian and 33.3% reported qualifying for free and reduced lunch.

Measures

Perception of Parental Supervision. A measure from the Rochester Youth Development Study was utilized to measure youth perception of parental supervision (Bjerregaard & Smith, 1993). The instrument consisted of 4 questions. The first two items were measured along a 4-point Likert scale ranging from (1) Never to (4) Often. Questions included "In the course of a day, how often does your parent know where you are?" and "How often would your parent know who you are with when you are away from the home?". The final two questions ranged from (1) Not at all important to (4) Very Important and consisted of "How important is it to your parent to know who your friends are?" and "How important is it to your parent to know where you are?". Scores were averaged and higher scores were indicative of a higher perception of parental supervision.

Social Support. Social support from adults at school, family, and friends was measured using the Social Support Record (Vaux, 1988). A total of 9 items were used to measure support

across the three contexts. For example, questions included “At school, there are adults I can talk to, who care about my feelings and what happens to me”, “There are people in my family I can talk to, who care about my feelings and what happens to me”, and “I have friends I can talk to, who care about my feelings and what happens to me”. Three items were summed to develop a composite score of social support for each of the three contexts. Higher scores indicated higher levels of support.

Future Aspirations. A measure adapted by the Houston Community Demonstration Project (1993), titled Future Aspirations – Peer leader survey, was utilized to measure levels of future aspiration. A 6-item survey was delivered to participants with a 4-point Likert scale ranging from (1) Not at all important to (4) Very important. Questions on the survey included items such as “How important is it to you that in the future… you will graduate from high school?” or “You will go to college”. Scores were averaged and higher means indicated a stronger level of future-aspiration.

Self-Control. Measures from the Individual Protective Factors Index were used to measure self-control (Phillips & Springer, 1992). The measure for self-control included 6 items such as “I do whatever I feel like doing” and “Sometimes I break things on purpose”. Responses ranged from (1) YES! to (4) NO! and composite scores consisted of the average response across items. Higher means indicated a stronger level of self-control.

Table 1

Descriptive statistics for each variable

	Chronbach’s α	M	SD	Min.	Max.	n
Perception of Parental Supervision	0.62	3.74	0.34	1.5	4	283
Social Support_School	0.75	4.03	1.47	0	6	278

Social Support_Family	0.83	5.17	1.33	0	6	285
Social Support_Friends	0.79	4.56	1.51	0	6	283
Future Aspiration	0.70	3.72	0.34	2	4	285
Self-Control	0.77	19.00	3.36	6	24	284

Table 2

Intercorrelations between variables

	1	2	3	4	5	6
1. Perception of Parental Supervision	1					
2.Social Support_School	.23*	1				
3.Social Support_Family	.25*	.42*	1			
4.Social Support_Friends	.22*	.39*	.46*	1		
5.Future Aspiration	.25*	.28*	.26*	.37*	1	
6.Self-Control	.25*	.24*	.34*	.27*	.29*	1

Note. *p < .05

Analysis

Analysis was conducted using SPSS. The direct effects of parental supervision and family support, along with the indirect effects of parental supervision through family support, on both outcomes were examined using mediation path analysis (Hayes, 2018). Through mediation, researchers are able to explore the mechanisms through which one variable influences another. Gender, age, and eligibility for free and reduced lunch were included as covariates. Statistical significance of the indirect effects was evaluated through percentile bootstrapping confidence intervals of 10,000 replications using the Process macro developed by Hayes (2018).

Figure 1 provides the hypothesized association tested in the current study.

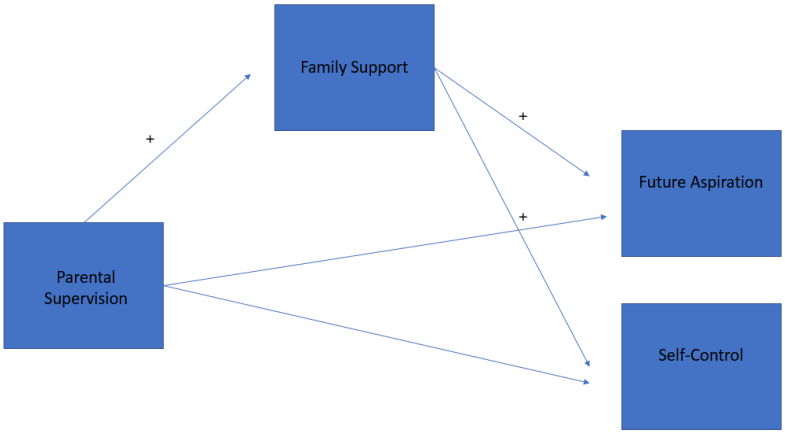

Figure 1. Hypothesized mediation model tested in current study.

In addition to the mediation analysis, the authors examined whether additional external assets, such as social support provided by adults in school or by friends, moderated the relationship between parental supervision and youth outcomes. Moderation analysis allows researchers the ability to examine whether a variable alters the relationship between two variables (Baron & Kenny, 1986). The following moderation model was estimated:

$$Y_i = \beta_0 + \beta_1 Supervision + \beta_2 Support + \beta_3 Supervision\ x\ Support + \beta_4 Gender + \beta_5 Age + \beta_6 FreeReducedLunch + e_i$$

Both parental supervision and social support were standardized prior to calculating the interaction term to protect against multicollinearity. Figure 2 provides the hypothesized moderation models evaluated in the current study. Results of the mediation and moderation models are discussed below.

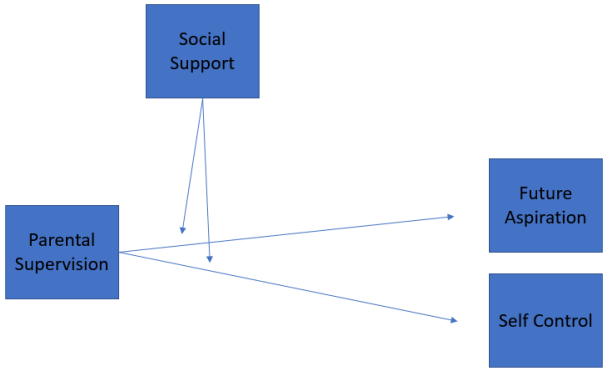

Figure 2. Hypothesized moderation model for social support received from school and from friends tested in current study.

Results

After controlling for gender, age, and free or reduced lunch status, parental supervision and perception of family support accounted for a significant amount of variance in future aspiration ($F(5,264)=8.21$, $p < .001$; $R^2 = .13$). The total effect of parental supervision on future aspiration was significant ($p < .001$) and indicated that, as supervision scores increased by one point future aspiration increased by .26 points. Family support had a direct effect on future aspiration score ($p < .001$), indicating that, for every one point increase in perception of family support, future aspiration scores increased by .06 points. Parental supervision also had a direct effect on future aspiration ($p < .001$), indicating that for every one point increase in parental supervision, future aspiration increased by .22 points. Parental supervision also had a significant indirect effect on future aspiration through family support (95% CI = .01 to .12). This finding suggests that participants differed by .05 points on future aspiration as a result of how parental supervision impacted perceptions of family support, indicating partial mediation through family support.

A similar partially mediated model was observed for self-control. After controlling for gender, age, and free or reduced lunch status, parental supervision and perception of family support accounted for a significant amount of variance in self-control ($F(5, 263) = 9.77$, $p < .001$; $R^2=.16$). The total effect of parental supervision on self-control indicates that, as parental supervision scores increased by one point, self-control scores increased by 2.20 points ($p < .001$). Parental supervision had a direct effect on self-control ($p = .01$). For every one point increase in parental supervision score, self-control scores increased by 1.54 points. Family support also had a direct effect on self-control ($p < .001$). For every one point increase in family support score, self-control scores increased by .72 points. Findings also revealed that parental supervision had an indirect effect on self-control through perception of family support (95% CI = .22 to 1.35). Participants differed by .66 points in self-control as a result of how parental supervision impacted participant perception of family support.

Table 3

Results of mediation model for future aspiration and self-control

	β_0	Standard Error	Sig.
	Future Aspiration		
Total Effect	.26	.06	<.001
Direct Effect: Parental Supervision	.22	.06	<.001
Direct Effect: Family Support	.06	.02	<.001
Indirect effect	.05	.03	95% CI [.01, .12]
	Self-Control		
Total Effect	2.20	.60	<.001
Direct Effect: Parental Supervision	1.54	.60	<.001
Direct Effect:	.72	.15	<.001

Family Support			
Indirect Effect	.66	.29	95% CI [.22, 1.35]

See Table 4 for the results of the moderation analysis. Both social support from friends and adults at school were significant predictors of both future aspiration and self-control ($p < .01$). However, support from friends did not significantly moderate the relationship between supervision and either outcome. Support from adults at school was not a moderator for future aspiration, although it did moderate the relationship between parental supervision and self-control ($p < .01$).

Table 4

Output for moderation models for both future aspiration and self-control

	β_0	Standardized β_0	Standard Error	Sig.
	Future Aspiration			
Supervision	.07	.22	.02	<.001
SS_Friends	.11	.33	.02	<.001
Supervision X SS_Friends	.03	.05	.02	.415
Age	.02	.11	.01	.074
Gender	-.02	-.02	.03	.700
Free Reduced Lunch	-.01	-.02	.04	.795
Supervision	.08	.23	.02	<.001
SS_School	-.06	-.17	.02	.006
Supervision X SS_School	.00	.01	.02	.819

Age	.03	.12	.01	.042
Gender	.04	.06	.04	.305
Free Reduced Lunch	-.05	-.06	.04	.301
	Self-Control			
Supervision	.66	.20	.21	.002
SS_Friends	.65	.20	.21	.002
Supervision X SS_Friends	.17	.06	.18	.356
Age	.02	.01	.13	.886
Gender	.26	.04	.40	.525
Free Reduced Lunch	-.65	-.09	.43	.126
Supervision	.52	.16	.29	.009
SS_School	-.66	-.20	.19	.001
Supervision X SS_School	.49	.18	.17	.003
Age	.06	.03	.12	.598
Gender	.42	.07	.38	.263
Free Reduced Lunch	-.84	-.12	.41	.044

Students that reported high levels of both parental supervision and high levels of support at school scored significantly higher than students that reported high levels of supervision and low support at school, or students that reported high support at school with low parental supervision.

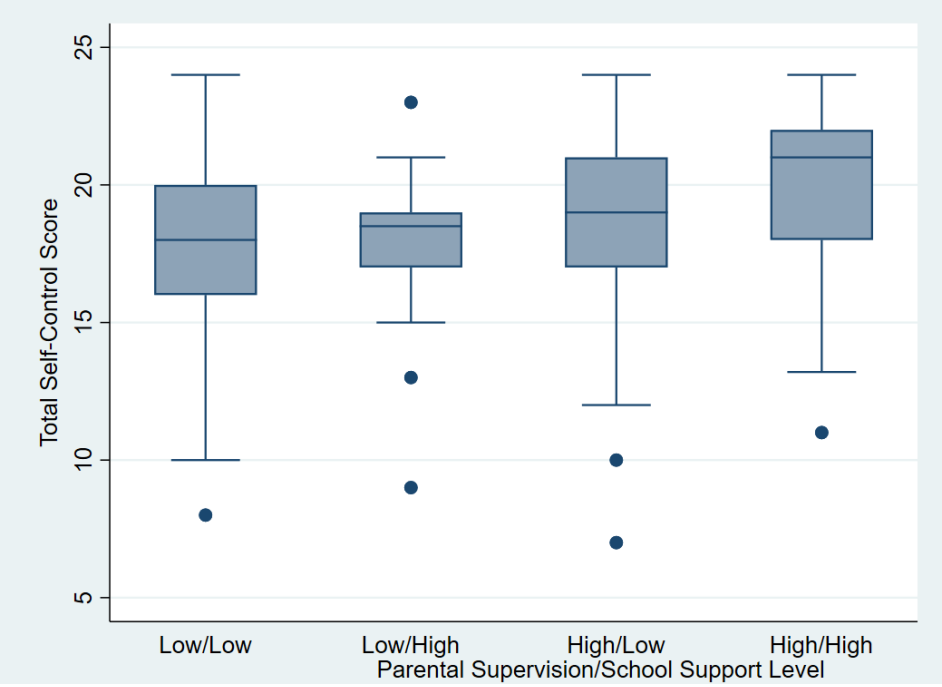

Figure 3. Box plot demonstrating difference in self-control score based on level of parental supervision and support received by an adult at school.

Discussion

This study examines parental supervision through a PYD framework in an effort to further examine the mechanisms by which parental supervision impacts youth outcomes. Parental supervision, an environmental factor known to prevent risk, was examined along with related ecological assets (family, school, and friend support). These factors of an individual's ecology were studied in relationship with two outcomes that have been associated with future thriving, future aspiration and self-control (Schmid, Phelps, & Lerner, 2011).

Our first hypothesis was confirmed: parental supervision was directly related to positive outcomes. This finding highlights the fact that, although most researchers have studied parental supervision in relation to preventing delinquency (i.e., the absence of negative outcomes), supervision and familial support are also significant predictors of positive developmental outcomes. Our second hypothesis was also confirmed. Family support was a significant

mediator between parental supervision and both future aspiration and self-control. Whereas previous studies on parental supervision assume a direct relationship between physical supervision and youth outcomes, this suggests supervision may impact outcomes indirectly through the adolescent's perception of support. It is also important to note that the model was only partially mediated. A direct effect remained between parental supervision and both outcomes, indicating that, although family support is a mechanism by which supervision impacts future aspiration and self-control, it is not the only mechanism.

The measure for perception of parental supervision includes items such as "how important is it to your parents to know where you are". It is possible that youth perceive these types of questions as evidence that their parents care about where they are, rather than as something that undermines their autonomy; it may be seen as a form of support and felt security instead of control. Therefore, if a parent were to use alternative forms of *physical* supervision when unable to physically supervise their child it may not lead to the desired positive outcomes. Instead, encouraging parents to provide emotional support and caring behavior, such as checking in with their child, may provide connection and felt security while allowing youth the autonomy they need to thrive.

In our study, supervision may operate as a proxy for caring. Indeed, because we are unable to identify the relationship between the youth and the individual outlined in the family support measure (parent, sibling, or other), it could in fact have been a parent for some youth. Although it is typical for adolescents to increase their autonomy from parents during adolescence, parental support is still important (Milevsky, et al., 2007). Traditionally, an adolescent's push for autonomy and drive to stay connected to their parents is seen as tense and contradictory. However, more recent research suggests that the push for autonomy and

connection work together to promote healthy psychosocial adjustment (McElhaney, et al., 2009). The presence of a close, supportive relationship with a parent, while respecting the need for youth to exert autonomy, is critical in supporting a healthy internal working model of attachment for adolescents and promotes healthy relationships outside of the parent-child relationship. According to McEhlhaney, et al. (2009) "[i]ncreased autonomous exploration (while utilizing parents as a secure base) allows adolescents to focus on the remaining tasks of social and emotional development: forming relationships with peers and romantic partners and regulating their own behavior and affective states" (p. 360). This finding is also in line with research on parenting styles, which suggest benefits of high levels of both support and structure (Baumrind, 1972; Valentino, et al., 2012).

Although supportive parent-child relationships that allow for adolescent autonomy are important in promoting healthy adolescent relationships with peers and romantic partners, it is also important while youth navigate relationships with non-parental adults. The network of relationships in youth's lives, and the presence of multiple potential supportive individuals, are important. In fact, Varga and Zaff (2018) have identified the importance of "webs of support" for youth in promoting positive outcomes across many domains (p. 6). In addition, research on non-parental adults (Yu, et al., 2018) and natural mentors (Hurd & Zimmerman, 2010) suggests that supportive non-parental adults can support healthy transitions into adulthood. Strong parent-child relationships promote a healthy internal working model, which can promote an adolescent's healthy attachment to non-parental adults and friends. Yet a strong parent-child relationship may not be essential for a youth to receive the benefits of another caring, supportive relationship. Some research suggests that adolescence is a time where individual internal working models may shift based on interactions with multiple individuals (McElhaney, et al.,

2009). Therefore, a supportive relationship with a non-parental adult can promote positive attachments in situations where parent-child relationships are not as strong, and that improved working model can contribute to healthy relationships with additional supportive individuals.

Our third hypothesis was not supported. Support from friends was not a significant moderator for future aspiration or self-control, and support from adults at school was not a significant moderator for future aspiration. School support did moderate the relationship between parental supervision and self-control, however. When parental supervision was higher, participants with higher levels of school support reported higher self-control than students with less support at school. However, youth with low parental supervision and high school support reported lower levels of self-control than youth with low supervision and high school support, indicating that support at school alone was not sufficient in promoting self-control absent parental supervision. This finding is in line with the literature suggesting that positive outcomes improve "exponentially" with each additional external asset accessed by youth (Benson, Scales, Syvertsen, 2011, p. 204). Youth that received both high levels of supervision from parents and high levels of support from adults at school reported the highest levels of self-control, supporting the positive role supportive relationships can have on youth development.

The inclusion of an ecological asset in these analyses provides insight on potential avenues for developmental interventions by surfacing the interconnectedness of supervision and supportive relationships in parent-youth relationships. Supportive relationships can also come from non-parental adults with whom the youth interacts. Non-parental adults are often in contact with youth in schools, after-school sports, and other after-school activities (Bowers, et al., 2014). These supportive individuals can act as a compensatory resource, or developmental asset, if youth perceive them as supportive.

Limitations and Future Directions

Although this study provides more information about the relationship between parental supervision and youth outcomes from a developmental perspective, it is not without limitations. This study examines youth from a similar geographic area and is not representative on a national scale. It is, therefore, important to use caution when generalizing these findings, as the developmental process may work differently depending on the context. For example, literature on parenting typologies historically identified authoritative parenting, defined as providing both structure and support, as associated with the most positive outcomes for youth, while authoritarian parenting types were associated with risks (Baumrind, 1972; Valentino, et al., 2012). However, more recent studies have demonstrated that authoritarian parenting types have been associated with positive outcomes in African American youth (Lansford, et al., 2004; Valentino, et al., 2012). The fact that findings can differ so significantly depending on the participants included in the study, and that ecological factors shape key interactions within the parent-child relationship, should act as a warning against normalizing any developmental findings isolated from context. Therefore, findings from the current study related to supervision and support may be context-dependent, and future studies should include different or more diverse samples to further examine this relationship across contexts to better understand the processes in place.

Efforts to further explore these mechanisms will require better measurement. For example, the measure for supervision in this study does not give information on which parent the youth is referencing. Previous studies indicate the relationship between parental supervision and youth outcomes may differ based not only on the age of the youth (Keijsers, et al., 2012) but also by which parent is present to supervise (Milevsky, et al., 2007). Similarly, the measure for

family support does not provide information on which family member the youth is referencing. Future research should look at the relationship between measures of supervision from both parents and should disentangle the family support measure, including from whom support is received and overall family cohesion. Such future studies could further unpack the role of a supportive non-parental adult as a possible form of intervention.

Although we hypothesized that supervision may be a proxy for caring, future studies should include direct measures to further examine this relationship. In addition, measures included only youth reports; including parental measures of supervision may be useful in future studies. Finally, positive indicators of youth development are utilized, as they are associated with later thriving (Schmid, Phelps, & Lerner, 2011), but this relationship is not directly measured in our dataset, which was cross-sectional in nature. A mixed-methods study that includes longitudinal measures to address more aspects of the PYD model would be beneficial in further exploring the relationship between parental supervision and ecological assets.

Conclusion

This paper applied a relational developmental theory, PYD, in an effort to further examine the relationship between parental supervision and positive indicators of later thriving. Neither risk nor protective factors alone tell the full story of youth development; it is "…the combination of these factors which may not have the exact same effect on all individuals at all times" (Barton, 2004, p. 86). Examining risks along with assets, such as supportive individuals, is critical in understanding development and identifying the processes by which positive development can occur. In order to fully understand these processes, it is essential to incorporate a strong developmental theory to inform study design, analysis, and interpretation of results when examining youth development. Youth development is complicated. Developmental

theories provide blueprints, which outline the multifaceted ways in which youth develop in the context of their ecology. Rather than focusing on quantifying direct relationships between dyadic interactions, looking at an individual's broader ecology can provide valuable insight on ways to promote positive development.

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Broadening the Perspective on Youth's Systems of Support:

An Ecological Examination of Supportive Peer and Adult Relationships During Adolescence

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Abstract

This paper applies the theory of Positive Youth Development (Lerner, et al., 2010) and the Youth Systems framework (Varga & Zaff, 2018) to the examination of supportive peer and adult relationships across multiple contexts in which youth develop. Results of egocentric social network analysis indicated that high school aged youth nominated significantly more adults than middle school aged youth. Peers and adults both acted as important sources of support, although often the types of support they offer differed. Outdegree centrality of peers was a significant predictor of character. The size of a participant's youth system, measured as the number of contexts accessed, along with average closeness in adult relationships, was a significant predictor of contribution. Thematic analysis of interview data identified four themes, aligned with the five actions of developmental relationships, as contributing factors to youth-adult closeness and youth perceptions of support (Pekel, et al., 2018). Implications for youth-adult relationships are discussed.

Keywords: Egocentric Social Network Analysis, Mixed Methods, Positive Youth Development, Peer Support, Supportive Adult Relationships

Introduction

Adolescence is a time of significant change (National Academies of Sciences, Engineering, and Medicine, 2019). As individuals enter adolescence they develop in several critical ways, including socially (Bowers, et al., 2014; Carlo, et al., 2007). Although multiple factors contribute to development, including biological changes (Branje, 2018), the interactions with other individuals in one's environment are often considered to be the mechanism for most development (Lerner, et al., 2010). Many researchers agree: development occurs through relationships (Varga & Zaff, 2018). Individuals learn social skills and develop a sense of identity through interactions with others in their environment (Bowers, et al., 2014). During adolescence, the relationships that shape development are shifting, as relationships with parents often change (Branje, 2018), and peers become increasingly important as sources of support (Stotsky & Bowker, 2018).

However, although parental relationships change, there is still evidence that supportive relationships with parents remain important for positive development (Muscarà, et al., 2018). In addition, research provides evidence that supportive relationships with non-parental adults can also be valuable during adolescence (Yu, et al., 2018). As youth age, they begin to interact with more individuals across different contexts of their environment, including with additional adults outside their families (Zhang, et al., 2018; Lerner, et al., 2010). In an effort to make sense of these multiple relationships, this paper examines supportive relationships with peers, parents, and non-parental adults across multiple contexts during adolescence using an ecological perspective and mixed methodology.

Review of Literature

As adolescents mature, their social networks expand (Zhang, et al., 2018), allowing them to interact with more individuals and across multiple contexts. These social networks become important sources of social support, which is essential as youth progress to adulthood (Chu, Saucier, & Hafner, 2010). Social support is generally defined as social resources available or perceived to be available to a person by individuals within their network and is associated with positive youth outcomes such as well-being (Chu, Saucier, & Hafner, 2010). Although social support is often discussed in a holistic way, there are multiple types of support, including companionship (partnership in activities), emotional (source of support with feelings, etc.), informational (provides advice and information about resources), instrumental (provides concrete support and help), and validation support (affirms individual, normalizing behavior and feelings) (Wills & Shinar, 2000). The presence of social support has been associated with positive youth outcomes (Lerner, et al., 2011), and a youth's perception of support has been found to act as a significant predictor of youth outcomes. In fact, a youth's perception of support has been found to act as a better predictor of support than measures of actual support (Sterrett, et al., 2011). Individuals within one's network can provide varying types of support, which can impact the quality of the relationship and outcomes for the individual (Malecki & Demaray, 2003).

Relational Changes: Role of Peers

The types of support youth require across the lifespan change depending on the needs associated with each developmental stage (Varga & Zaff, 2018). During childhood, parents are a primary source of support for youth (Branje, 2018). However, as youth reach adolescence they increasingly turn to peers to fulfill supportive roles previously associated with parents (Oris, et al., 2016; Olsson, et al., 2016). In fact, this support from peers can even exceed support provided by parents (Collins & Laursen, 2004; Zhang, et al., 2018). Establishing supportive peer

relationships is important for adolescent development (Colarossi & Eccles, 2003). Whereas negative interactions with peers have been related to social anxiety and depression (Beale et al., 2018), peer support has been connected to improved self-esteem (Colarossi & Eccles, 2003), adjustment (Stotsky & Bowker, 2018), school satisfaction (Muscarà, et al., 2018) and experience in school (Oriol, et al., 2017). Positive peer relationships are also essential for identity development (Rassart, et al., 2012), which is an important task associated with this developmental period (Arnett, 2000). These peer friendships are especially beneficial in situations where the parent-child relationship is strained (Zhang, et al., 2018), demonstrating that supportive peer relationships can be an important asset as youth develop.

Role of Adults

Although peer relationships are clearly a valuable asset for youth development, many researchers maintain that parents (Beam, Chen, & Greenberger, 2002) and non-parental adults (Yu, et al., 2018) are still important for development during adolescence. Parents interact with youth more consistently than most other individuals (Zhang, et al., 2018) and they remain important sources of social support, despite the increase in reliance on peers (Muscarà, et al., 2018; Oris, et al., 2016). Strong parental support has been associated with several positive outcomes, including academic achievement (Jeynes, 2007) and self-esteem (Gentina, et al., 2018), demonstrating that parental support is still an important asset during this particular phase of development.

Supportive non-parental adults, sometimes referred to as natural mentors (Hurd & Zimmerman, 2014) or “VIPs” (Beam, Chen, & Greenberger, 2002), are also valuable sources of social support. Supportive youth-adult relationships have been associated with numerous positive outcomes (Jones & Deutsch, 2011), including positive academic outcomes (DuBois &

Silverthorn, 2005), resiliency (Ungar, 2013), improved overall well-being (Hurd & Zimmerman, 2014), and socio-emotional outcomes (Chang, et al., 2010). Youth-adult relationships are especially beneficial when relationships are developmental in nature (Pekel, et al., 2018). Pekel, et al. (2018) define developmental relationships as occurring when an adult demonstrates that they like the youth (express care), help the youth complete tasks (provide support), push the youth to improve (challenge growth), connect the youth to opportunities (expand possibility), and provide space for the youth's voice and decision-making (share power). When these relational traits are present, the relationship leads to a more positive impact on the youth.

There is growing evidence that supportive relationships with both peers and adults are important to positive development (Gentina, et al., 2018; Kerr, et al., 2003). In fact, researchers found that combined support from both parents and peers was associated with well-being and mood during adolescence; the combined impact was stronger than either source of support considered separately (Oris, et al., 2016). Another study found that adults and peers provide different types of support, with parents providing instrumental support, and peers providing informational and emotional support through adolescence (Olsson, et al., 2016). Youth preferred to rely on adults in some situations, and friends in others. In addition, these two sets of relationships are not independent. Parents are potentially important in helping youth navigate peer relationships, especially when conflict arises (Poulin, Nadeau, & Scaramella, 2012). Having the option to choose between adults and peers appears to be a valuable part of the expanded social network that occurs during adolescence (Zhang, et al., 2018). Based on this information, it seems clear that a supportive environment for youth relies on support from a combination of sources, including both peers and adults, and having multiple peers and adults available from which to choose may be important for positive development.

An Ecological Perspective

Based on the previous literature, it's clear that supportive relationships with parents, peers, and non-parental adults are meaningful during adolescent development. Relational developmental systems theory (Lerner, et al., 2011), more specifically positive youth development (PYD) (Benson, Scales, & Syvertsen, 2011), provides researchers with a framework for understanding the ways in which these multiple relationships interact as sources of support in youth's lives and their impact on youth development. Relational developmental systems theoretical (RDST) models highlight the role of bidirectional relationships between an individual and the broader context in which they are developing (Lerner, et al., 2011). PYD is one RDST model that emphasizes the importance of ensuring development happens in a positive direction, focusing on the assets present in a youth's environment (external assets) as well as within youth themselves (internal assets; Benson, 2002).

One popular model for this process is often referred to as the five C's model of PYD (Benson, Scales, & Syvertsen, 2011). According to the five C's model, interactions between an individual and their environment guide development; when these interactions lead to positive changes for both the individual and environment, they are termed adaptive (Lerner, et al., 2011). Within this model (Figure 1), assets within the individual align with assets in the environment to promote important characteristics, or attributes, within the individual. These key attributes are referred to as the "five C's" (Lerner, et al, 2005, p. 18), which include competence, confidence, character, connection, and caring (Table A1, Appendix A), and are a distinguishing aspect of this specific model of PYD. When these five C's are fostered, youth are more likely to contribute to the self, family, community, and civil society (Lerner, et al., 2011). Contribution, the 6th C, highlights a key aspect of this model: youth are active agents in their development and in the

world around them. Youth decide with whom they want to spend time, what information they are willing to disclose, and who they want to seek out for specific support (Kerr, et al., 2003).

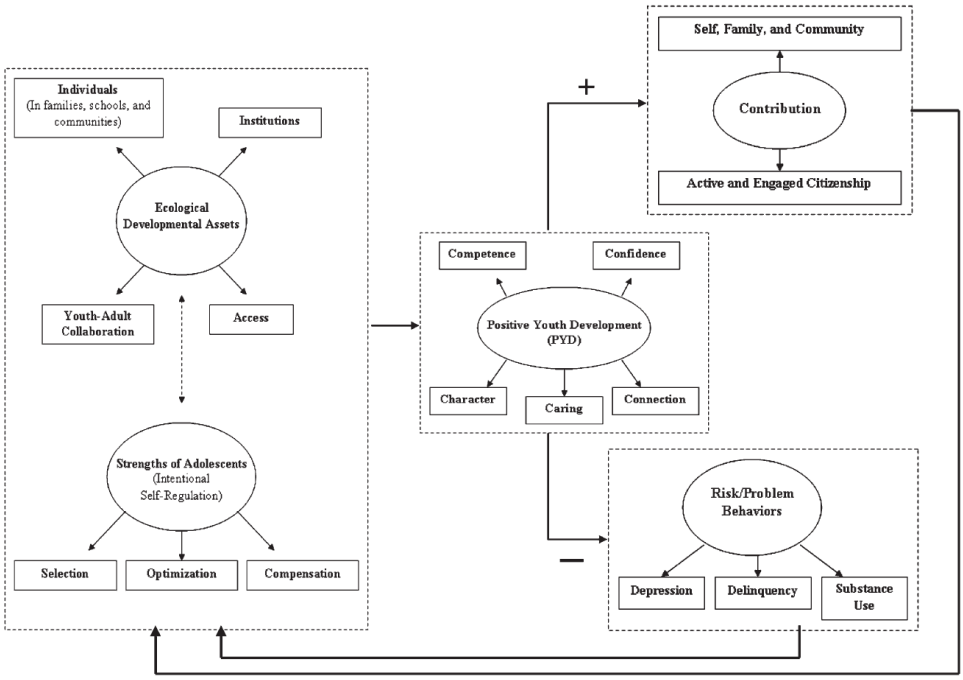

Figure 1. The 5 C's Model of PYD
Source. Lerner, et al. (2010).

Based on the principles of PYD, the basic processes associated with adolescent development involve relationships between an individual and multiple levels within their context (Lerner, et al., 2010). Therefore, in order to expand our understanding of youth development, it is important to consider the broader ecology within which youth are interacting, and specifically the people with whom they are interacting and from whom they are receiving support on a regular basis.

Youth Systems Approaches to Supportive Relationships

These broader social networks present within a youth's ecology interact, creating an "ecology of relationships" referred to as a "youth system" (Varga & Zaff, 2018, p. 1). Therefore, if researchers are interested in examining the role of supportive relationships during adolescence,

it is important to consider the entire youth system. Zaff, et al. (2016) provide a model that can be used to support research that looks at multiple relationships within multiple contexts (Figure 2). With this model, Zaff et al. highlight the importance of taking an ecological approach to studying youth development (2016). Rather than focusing on dyadic relationships independently of one another, research informed by the youth system model would consider multiple relationships across multiple contexts of a youth's environment. For example, in a study of adolescent youth in Spain, Hombrados-Mendieta, et al. (2012) applied an ecological approach, considering support from friends and adults across the contexts of both school and family. Findings revealed that, as youth age, support from classmates increases, and reaches nearly the same level as support from parents. Parents remain present, however, providing emotional, instrumental, and informational support, whereas peers provide emotional and informational support during this time. These findings speak to the fact that supportive relationships with peers and adults across contexts are important to development. However, examples of researchers studying supportive relationships from this ecological perspective are limited.

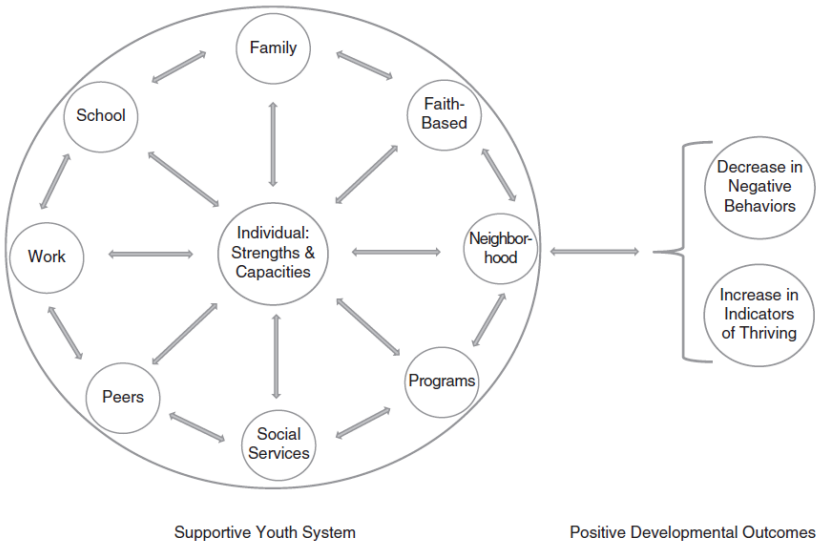

Figure 2. Model of a youth system, with multiple bidirectional relationships across multiple

contexts, contributing to PYD.
Source. Zaff, et al. (2016).

Current Study

The current study aims to further examine supportive relationships from an ecological perspective considering multiple relationships across the youth system. Although there is research that looks at the role of supportive relationships across two contexts, family and school (Hombrados-Mendieta, et al., 2012), this study considers relationships across six contexts, including family, school, after-school, neighborhood, community, and allowing for an "other" context, defined by the youth. Within each context, relationships with both adults and peers are included to further explore the impact multiple sources of support have on positive youth outcomes, such as the five C's of PYD. With this information, this study hopes to answer the following questions:

1. What do youth systems look like with regard to size (number of contexts accessed) and composition (number of adults and peers)?
    a. Does this differ based on age?
2. Who do youth report going to for the five different types of support (peers or adults), and does this differ based on age?
3. Does the make-up of a system of support affect outcomes, such as the five C's of PYD?
    a. Are differences in the quantity of peers/adults or average closeness of relationships within the youth system associated with later PYD, as measured by the five C's of PYD?
    b. Are the number of contexts in which a youth has supportive peer and adult relationships associated with PYD, as measured by the five C's of PYD?
4. How do youth describe the support they receive from peers and adults?

a. What contributes to their decision to approach an individual for support?

Methods

Participants

The data for this study come from a larger, mixed-methods study of youth-adult relationships (Futch Ehrlich, et al., 2016). During the first phase of this study, a total of 289 adolescents (mean age = 14.05) were recruited from various after-school, school, and community-based programs. Participants responded to a screening survey that collected information related to demographics, information on the presence of any significant, non-parental adults, along with other questions about youth's daily environments and relationships and psychosocial characteristics. During the second phase, 41 youth were purposefully selected to participate in a longitudinal study and participated in a series of up to five in-depth interviews and surveys across three and a half years, although one youth was dropped due to being younger than the minimum age of the study. The sample was equally split by age (middle school versus high school aged youth) and balanced by gender. We purposefully selected within each group based on characteristics such as relational style (i.e., attachment), number of significant adults reported on the screening survey (ranging from zero to five), number of afterschool activities the youth participated in, socioeconomic status, and racial/ethnic identification. Interviews began in 2014, and up to five interviews were conducted with youth across three years at approximately six-month intervals. The survey which was the source for the data used to address this study's questions was collected at alternating waves. This study relies on data collected during the first interview (wave one), along with survey data collected during wave five. Participant characteristics are included in Appendix B.

The current study utilizes a concurrent parallel mixed methods design (Creswell, 2014). This approach allows for both quantitative and qualitative data to be collected and analyzed at the same time, which allows for findings to be considered together. Quantitative analysis was conducted as qualitative data were thematically coded. Results were then finalized together to address all research questions.

Quantitative Measures and Analysis

Age group. In order to compare middle school and high school aged students, a variable was developed assigning each participant an age group. Participants aged 12 to 13 were included in the middle school aged group, while students aged 14 through 18 were classified as high school aged (See Appendix B). The middle school aged group consisted of 21 participants whereas the high school group consisted of 19 participants, with 62% of the middle school and 47% of the high school aged group identifying as female. Results of a chi square analysis confirmed no significant difference based on gender between the age groups ($p = .356$).

Five C's of positive youth development. The five "C's" of PYD (i.e., competence, confidence, character, connection, and caring) along with contribution were measured using the short measure of the five C's of PYD (Geldhof, et al., 2013). This measure allows researchers to develop composite scores for all five "C's" and contribution. Items include "Some teenagers feel that they are just as smart as others their age, BUT other teenagers aren't so sure and wonder if they are as smart" (competence) and "Some kids like the kind of person they are, BUT other kids often wish they were someone else" (confidence). For these items, students were first asked to choose which person they were most like. They then selected from a five-point Likert scale ranging from "really true" to "sort of true". Other items include "How important is [each of the following prompts] in your life…Helping to make the world a better place to live in" (character),

which was measured on a 5-point Likert scale ranging from “not important” to “extremely important”. Caring was measured with items such as “How well does each of these statements describe you: When I see someone being taken advantage of, I want to help them”, which was measured on a five-point Likert scale ranging from “not well” to “very well”. Connection was measured with items such as “In my family, I feel useful and important”, with responses measured on a five-point Likert scale ranging from “strongly disagree” to “strongly agree”. Finally, two measures for contribution, ideology (mindset) and action (behaviors) together, and ideology separately, were measured based on a subsample of these items after following the scoring protocol established by the original authors (Lerner, et al., 2005). Descriptive statistics and reliability estimates for each measure are available in Table 1, while intercorrelations are available in Table 2.

Table 1

Descriptive statistics for each of the five C’s of PYD

	Mean	Standard Deviation	Range	Reliability	N
Competence	3.18	0.38	2.33, 3.67	0.58	27
Confidence	3.49	0.52	2.33, 4.17	0.82	27
Character	3.84	0.50	2.71, 4.57	0.51	27
Caring	4.44	0.56	3.17, 5.00	0.81	27
Connection	3.90	0.62	2.25, 4.88	0.83	27

Table 2

Intercorrelations between each of the five C’s of PYD

	Competence	Confidence	Character	Caring	Connection
Competence	1				
Confidence	.67*	1			
Character	.05	.11	1		
Caring	.02	.10	.45*	1	
Connection	.42*	.57*	.28	0.05	1

Note. *p < .05

Interviews and social network maps. During the first wave of interviews, individuals were asked to complete a social network map (example provided in Appendix C). Participants listed important individuals, both peers and adults, across six different contexts (family, school, after-school, community, neighborhood, and "other"), and placed them on a social network map using small post-it notes. Individuals were placed on the map within five rings representing how close the youth felt to that person. Individuals placed at the innermost ring, closest to the center of the graph, indicated individuals with whom the participant felt especially close, and individuals placed on the furthest ring were the least close. Closeness ratings ranged from 1 to 5 and higher scores on the closeness scale indicated greater closeness. These maps were quantitatively coded for information such as number of contexts in which peers and adults were present, overall number of peers and adults, and average closeness of peers and adults (See Figure 3). Social Network Maps were collected from 37 of the 40 participants.

Table 3

Example of quantitative data collected from social network maps

Participant	Context	Adults		Peers	
		Total Nominations	Average Closeness	Total Nominations	Average Closeness
Time	3	10	2.3	4	4.3
Colt	4	14	2.79	13	3
Jack	4	10	2.9	8	3.38
Robert	6	13	3.31	7	3.57
Karen	6	20	3.15	12	3.75

During this time, participants engaged in in-depth interviews about the content of their social network maps. Questions included "Who would you go to if you needed advice or information?" and "Who would you go to if you wanted to talk with someone about something personal or private?". In addition, participants were probed to discuss details of their

relationship with several individuals on their maps and were often asked about factors that contributed to how close they felt to individuals, and why they felt some individuals were more supportive than others. The official interview protocol used for the social network map development is available in Appendix D. These interviews were transcribed verbatim and uploaded into Dedoose (version 8.3.17).

Quantitative Analysis

Social network analysis typically takes one of two approaches: sociocentric or egocentric (Chung, Hossain, & Davis, 2005). The sociocentric approach, which is more common, focuses on patterns of relationships between a group of individuals. An egocentric approach, on the other hand, focuses on the relationships of one individual. In egocentric social network analysis, the specific individual of focus is referred to as the "ego" and individuals nominated by the individual are referred to as "alters" (Perry, Pescosolido, & Borgatti, 2018). For this paper, egocentric social network analysis was utilized as we examined both peer and adult nominations made by participants.

UCINET (Analytic Technologies, n.d.), a statistical software program specialized for social network data, was utilized to develop visual depictions of each social network map. Next, social network composition, which focuses on individuals that make up a network (Carolan, 2014), and outdegree centrality, which focuses on the number of nominations made by an ego (Hanneman & Riddle, 2005), were examined. Data collected from the social network maps at wave one (Table 3) were compared by age group using a series of independent t-tests. The Wilcoxon-Mann-Whitney test was utilized to compare number of contexts by age group, as the context variable was not continuous, ranging only from three to six.

Once researchers analyzed the composition of the social network maps, data were utilized to test whether features of the social network maps, such as total number of contexts, number of peers, adults, and total nominations, and average total closeness along with average closeness for peers and adults, predicted the five C's of PYD or Contribution at wave five. The following Ordinary Least Squares regression model was examined for each of the five C's and Contribution.

$$C_i = \beta_0 + \beta_1 Gender + \beta_2 AgeGroup + \beta_3 SNA\ Feature + r_i$$

Information related to sources of support (peers or adults) for each type of support was also collected from the interview data and quantified. Chi square analysis was conducted to determine whether there were significant differences in types of individual accessed (peers or adults) based on age group for each of the five types of support. Data were analyzed using STATA (release 15.0).

Quantitative Findings

How Do Youth Systems Look

Visual inspection of the social network maps suggested that there were differences in the composition of youth systems related to number of peers and adults, average closeness, as well as number of contexts in which support was available. For example, the individual represented in Figure 3 had access to individuals across three contexts: family, community, and afterschool. His map included fewer peers (n=4) than adults (n=10). The individual represented in Figure 4, on the other hand, had more peers (n=24) than adults (n=18), with varying degrees of closeness across all six contexts.

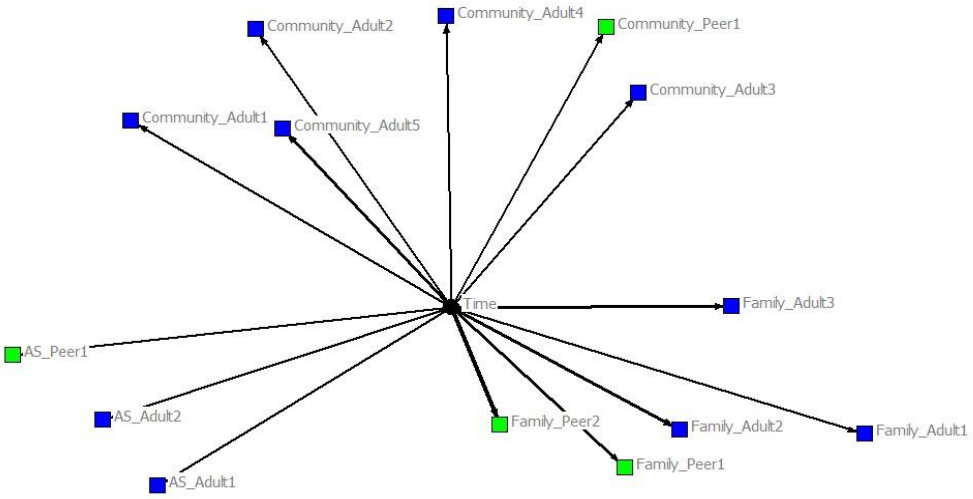

Figure 3. Example of social network map where participant nominated few peers and adults across only three contexts.

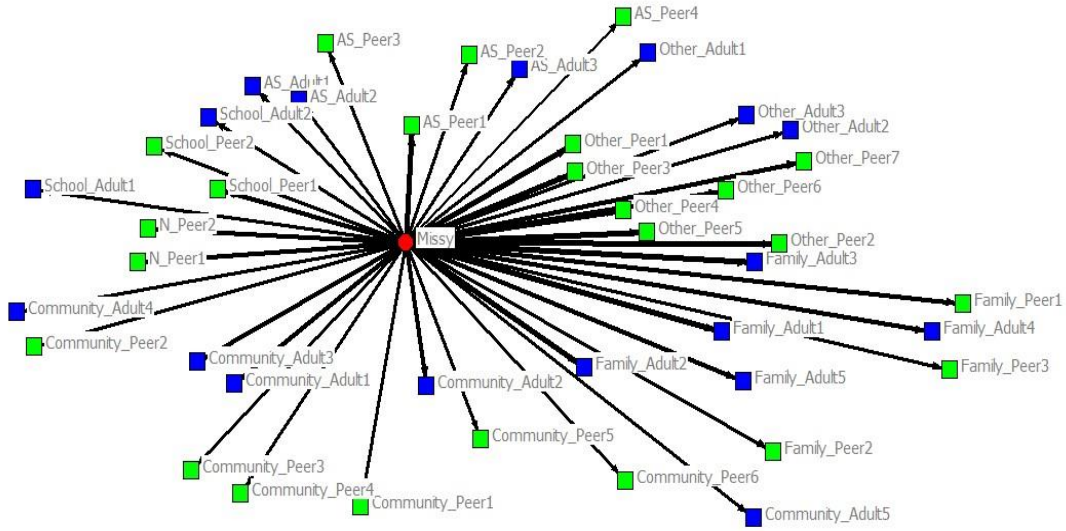

Figure 4. Example of social network map where participant includes multiple peers and adults across multiple contexts.

In our sample, participants reported access to individuals in between three and six contexts. Only three (8.11%) participants reported access to individuals in three contexts, seven (18.92%) in four contexts, seventeen (45.95%) in five contexts, and six (27.03%) in six contexts. On average, participants nominated around 12 adults across contexts, and the average closeness with these adults was 3.42. Participants nominated, on average, 9 peers with an average closeness of 3.82.

Table 4

Descriptive statistics for data collected from social network maps

	Mean	Standard Deviation	Min	Max
Total Nominations (Peers and Adults)	21.32	8.42	12	48
Average Closeness (Peers and Adults)	3.62	.47	2.83	4.58
Total Adults	12.24	4.70	5.00	28.00
Average Closeness (Adults)	3.42	0.63	2.27	4.83
Total Peers	9.08	5.07	3.00	24.00
Average Closeness (Peers)	3.82	0.52	2.83	4.80

Results of the independent sample t-tests (Table 5) revealed a significant difference between age group regarding number of adults within the youth system ($t(35) = -2.08$, $p = .045$). Older youth, on average, reported between 13 and 14 adults ($M = 13.74$), whereas the middle-school aged group reported, on average, between 10 and 11 ($M = 10.67$). There was no significant difference in average closeness toward adults, however. There was also no significant difference in total number of nominations, total peer nominations or average

closeness with peers between age groups. In addition, there was no significant difference in the number of contexts accessed based on age group.

Table 5

Results of T-Test Comparing Social Network Composition by Age Group

	Mean Difference	Standard Error	t-Value	*df*	Sig
Context	.16	.30	.53	35	.598
Total Nominations	-3.66	2.74	-1.34	35	.190
Average Closeness (Adults and Peers)	.13	.16	.83	35	.415
Total Adults	-3.07	1.48	-2.08	35	.045
Average Closeness (Adults)	.17	.21	.82	35	.420
Total Peers	-.59	1.69	-.35	35	.729
Average Closeness (Peers)	.09	.17	.52	35	.605

Who Do Youth Report Going to For Support

During interviews, youth were asked to name which individuals they would approach for different types of support. This information was quantified, with information captured to determine whether youth were more likely to rely on peers or adults for each type of support (Table 6). Peers were the primary source of support for companionship, whereas adults were the primary source of informational support. The majority of participants reported seeking emotional, instrumental, and validation support from both peers and adults. Results of the chi-square analysis did not report any differences in sources of support based on age group (Table 7).

Table 6

Percentages of peers, adults, or combined sources of support by support type

	Only Peers	Only Adults	Peers and Adults
Companionship	70%	0%	30%
Emotional	15%	22.5%	62.5%
Informational	0.0%	60%	40%
Instrumental	31.6%	18.4%	50.0%
Validation	0.0%	47.5%	52.5%

Table 7

Results of Chi Square Analysis Comparing Individuals Accessed for Support by Age Group

	Age Group	Only Peers	Only Adults	Peers and Adults	Sig
Companionship	Middle School	12 (57%)	0 (0%)	9 (43%)	.062
	High School	16 (84%)	0 (0%)	3 (16%)	
Emotional	Middle School	1 (5%)	6 (29%)	14 (67%)	.140
	High School	5 (26%)	3 (16%)	11 (58%)	
Informational	Middle School	0 (0%)	14 (67%)	7 (33%)	.366
	High School	0 (0%)	10 (53%)	9 (47%)	
Instrumental	Middle School	5 (25%)	4 (20%)	11 (55%)	.655
	High School	7 (39%)	3 (17%)	8 (44%)	
Validation	Middle School	0 (0%)	11 (52%)	10 (48%)	.516
	High School	0 (0%)	8 (42%)	11 (58%)	

Does Youth System Composition Predict the Five C's of PYD

Regression coefficients related to features of the social network map are included in Table 8. Gender and age were included as covariates in all models.

Outdegree centrality. The total number of adults nominated was not a significant predictor of competence, confidence, character, caring, or connection. The average closeness score with adults was a significant predictor of contribution ideology (p = .025), with contribution ideology scores increasing by .49 points (.43 standard deviations) for each increase in average closeness to adults within a youth system after controlling for age and gender.

Total peer nominations was not a significant predictor of competence or confidence. However, total peer nominations was a significant predictor of character (p = .014). For each additional peer nomination, average character scores increased by .04 points (.47 standard deviations) after controlling for gender and age group. Total number of peers nominated did not predict caring, connection, or contribution. Average closeness to peers was also not a significant predictor of competence, confidence, character, caring, or connection. Total nominations, including both peers and adults, was also a significant predictor of character (p = .024), with average character scores increasing by .02 point (.43 standard deviations) for each increase in total nominations made.

Contexts accessed in a youth system. The number of contexts in which youth reported relationships was not a significant predictor of competence, confidence, character, caring, or connection. However, total number of contexts accessed was a significant predictor of contribution ideology *and* action (p = .008). For each additional context available for supportive relationships, contribution scores increased by 8.78 points (.53 standard deviations).

Table 8

Regression coefficients for features of social network maps

	β_0	Standardized Coefficient	Standard Error	Sig
Contribution Action and Ideology				

Number of Contexts**	8.78	.53	2.97	.008
Total Nominations	.41	.23	.34	.242
Average Closeness (Adults and Peers)	1.21	.02	10.38	.908
Total Adults	1.09	.34	.62	.092
Average Closeness (Adults)	7.97	.26	5.99	.199
Total Peers	.29	.10	.58	.624
Average Closeness (Peers)	-10.52	-.29	7.24	.162
	Contribution Ideology			
Number of Contexts***	.44	.69	.10	<.001
Total Nominations	.02	.30	.01	.126
Average Closeness (Adults and Peers)	.54	.31	.33	.122
Total Adults	.03	.24	.02	.249
Average Closeness (Adults)*	.49	.43	.20	.025
Total Peers	.03	.30	.02	.124
Average Closeness (Peers)	-.05	-.04	.28	.865
	Competence			
Number of Contexts	.03	.08	.09	.717
Total Nominations	.00	.10	.01	.643
Average Closeness (Adults and Peers)	.21	.21	.22	.331

Total Adults	.02	.25	.02	.250
Average Closeness (Adults)	.03	.04	.14	.840
Total Peers	-.00	-.05	.01	.818
Average Closeness (Peers)	.23	.29	.17	.191
		Confidence		
Number of Contexts	-.07	-.14	.13	.561
Total Nominations	-.00	-.09	.01	.698
Average Closeness (Adults and Peers)	-.05	-.04	.32	.871
Total Adults	-.01	-.09	.02	.689
Average Closeness (Adults)	-.03	-.04	.21	.873
Total Peers	-.01	-.07	.02	.767
Average Closeness (Peers)	-.02	-.01	.25	.949
		Character		
Number of Contexts	-.16	.32	.10	.129
Total Nominations*	.02	.43	.01	.024
Average Closeness (Adults and Peers)	-.14	-.11	.26	.596
Total Adults	.03	.30	.02	.138
Average Closeness (Adults)	-.06	-.07	.17	.724
Total Peers*	.04	.47	.01	.014

Average Closeness (Peers)	-.09	-.09	.21	.680
		Caring		
Number of Contexts	-.00	-.00	.13	.997
Total Nominations	-.01	-.25	.01	.246
Average Closeness (Adults and Peers)	-.16	-.10	.32	.635
Total Adults	-.04	-.40	.02	.060
Average Closeness (Adults)	.01	.01	.21	.965
Total Peers	-.01	-.07	.02	.752
Average Closeness (Peers)	-.21	-.18	.25	.417
		Connection		
Number of Contexts	-.04	-.07	.15	.764
Total Nominations	.01	.21	.01	.314
Average Closeness (Adults and Peers)	.07	.04	.37	.843
Total Adults	.03	.28	.03	.199
Average Closeness (Adults)	.02	.01	.24	.944
Total Peers	.01	.12	.02	.580
Average Closeness (Peers)	.07	.05	.29	.819

Note. *p < .05, ** p < .01, ***p < .001

Qualitative Analysis

Qualitative data analysis focused on examining the ways in which youth discussed relationships with adults across their environments, utilizing thematic analysis (Braun & Clarke, 2006) in addition to constant comparisons and analytic memoing. These methods allow for researchers to explore themes that emerge from the data itself. First, the first and second author independently reviewed interview data related to the construction of the social network maps and generated a provisional codebook. The first and second author then met to generate a codebook based on reviews (See Appendix E). Both researchers then coded a sample of interviews, ensuring that each researcher was applying the codebook accurately. After meeting to clarify any unclear codes, the coders independently coded the remaining interviews, meeting regularly to revise the codebook, come to consensus on any coding that was unclear, and to discuss analytic memos. All coding was conducted in Dedoose (version 8.3.17).

Once all interviews were coded, the first author collected excerpts for each theme, reviewing excerpts from middle school aged and high school aged youth separately. The first author then engaged in constant comparison (Strauss & Corbin, 1990) of excerpts within each code. Finally, the first author examined themes across codes to look for connections that explained the underlying processes that contributed to relationships across youth contexts. During this process, four themes emerged that related closely to research conducted on the essential actions of developmental relationships: express care, provide support, challenge growth, expand possibilities, and share power (Pekel, et al., 2015). Because the emerging themes related so closely to the essential actions of developmental relationships, the first author developed analytic memos connecting each theme to each essential action. In the final step, final analytic memos were reviewed by the second author. The second author then looked for

disconfirming evidence across the excerpts, specifically looking to ensure that any differences found by age group were supported by the data.

Qualitative Findings

Adolescents spoke of their peer relationships in similar ways across age groups, highlighting that they typically gravitated towards individuals with whom they spent a lot of time, shared space, and had common interests. The qualitative data did not deepen our understanding of the quantitative findings related to peer relationships; no age differences emerged, and the emerging themes did not seem to relate to character development. Differences between age groups did emerge related to relationships with adults, however.

Themes Across Middle and High School Aged Participants

Express care. Across age groups, participants highlighted that several adults were included on their map because they felt as if they genuinely cared about them as an individual. Often, this was expressed by adults reaching out and checking in on the participant. For example, one middle school participant shared: "…I could actually talk to him [important adult] about personal stuff just because [he] really cared and asked, 'Okay is anything going on'. That was really nice." Another participant offered, when discussing why they felt especially close to an adult in their system, "…And I think she's a very caring person. I think she cares about me.".

Time spent together. For both middle and high school aged participants, the closeness they felt to adults depended heavily on the amount of time they spent together. One participant explained:

> Interviewer: Okay, and it looks like you're closer to them [mother's parents] than your grandparents on your dad's side?
>
> Participant: Yes.

Interviewer: What's the difference there?

Participant: They live closer so I just seen them more coming – I see them almost like once a week –

Interviewer: Oh, okay.

Participant: Well, it's not that similar, not that often, but if you compare that to how I see my dad's side, I just them more often. So, I mean just, they've just been, past 16 years, seeing them so often, couple times a month, it's just really helped. And my – well, my grandma went through – she has appendicitis and so she was close and then she came here to stay a little while after she got out the hospital and then so that kinda grew us together, just helping her out.

For several participants, seeing the adult regularly was an important step to establishing care. This finding was confirmed by another participant, "Yeah. I mean it offsets each other, just because I see it like – [High School Coach] more every day, but I might not get along with him as well as I – but I get along with my [other] coaches, but I just don't see them every day". For this participant, not spending a significant amount of time with his other coaches prevented him from feeling closer, despite how much he liked them. Although this was true in both middle and high school transcripts, this finding was more prevalent in middle school interviews.

Personality traits. Although spending time together appeared to be an important precursor to demonstrating care, several youth shared that they felt closer to adults that were "nice" and "funny". For example, one exchange clarified the importance of both time and personality: "Interviewer: What makes her maybe more important than other friends' parents? Participant: I probably go to her house more and see her more. And she's really nice". Being "nice" was echoed as an important factor by several participants and was often connected to why

youth felt close to a specific adult, and why they felt they could approach that individual for support. One participant explained:

> Interviewer: So what about [adult]? What makes him a four?
>
> Participant: I'm not really sure. He's really nice to us. Whenever we rake up our yard, he'll sometimes let us use the ten bags on his side and the ten bags on ours so we can get it all out…he's just a really personable guy. When we were eating there the other day he came and talked to us even though he didn't have to… He was just really nice to everyone. He's always really nice. He's always smiling and stuff.

In addition to being nice, being "funny" or easy going was also a common reason youth felt close to an adult or felt as if the adult was caring and available for support. For example, one participant offered, "Interviewer: Wow. It looks like you feel closer to Coach [J] than you do to [other adult]. Is she nicer, or –? Participant: She's nicer, I guess, and she's kinda funny." Another participant stated, "He was a really just funny teacher, so I was just close to him".

Provide support. Providing support, according to Pekel, et al. (2015), includes helping the individual complete tasks and achieve goals. For our participants, this also included providing emotional support by listening, or being willing to listen, during times of difficulty. One participant explained why she felt especially close to an adult in her system with the following statement:

> She – I don't know, maybe it's not that she understands, more that she listens, and she actually has a lot of siblings, so she understands how to help me when I have issues with my brothers that are, like, serious issues. Like, I get really mad at them, and then I go and talk to [her] about how to not get so mad

For several students, it was not just about being a great listener, but engaging in deeper conversations that contributed to closeness felt with adults, implying more engagement than just "listening". These students looked for empathy and feelings of being understood. For example, one participant explained:

> She is really young and she's really just gotten out of her soccer career so she knows like what – just like how we're feeling, just stuff like that. She's just easy to get along with and funny and just I feel like I could talk to her about a lot of stuff.

Other participants, in explaining why they did not feel especially close to an adult in their youth system, spoke to the need of deeper conversations, stating that sticking only to superficial topics prevented them from feeling closer. For example, one participant offered the following: "Interviewer: And what makes [him]…a 1 compared to the other? Participant: Like we talk a little bit, but nothing personal…". Another participant discounted the quality of her relationship with an adult because their conversation consisted only of "small talk" when asked to explain an assigned closeness score of "one" on the social network map.

Themes Emerging for High School Students Only

Challenge Growth and Expand Possibility. Two essential actions of developmental relationships include challenging growth, which focuses on pushing for improvement, and expanding possibilities, which emphasizes relationships that connect individuals to opportunities (Pekel, et al., 2015). These two actions were often discussed together by high school aged participants. For example, during a discussion as to why this participant felt especially close to an adult in his system, one participant explained:

> …I'll always be going in for help and stuff … so I go to her, talk to her and then learn what's happening. She's just helped me a lot this year, how to get through this year, what to do next year and just helping me out.

Students generally spoke about feeling encouraged to grow and improve by important people within their context. One participant, in discussing an important adult, stated "she's just – she gets to you more. She really gets – she pushes you a lot".

Often, this general push to improve was linked to more opportunities for the future. For example, when asked why one specific adult was especially close, one participant provided the following explanation:

> …besides being a good teacher he'd also talk about things, like, outside of school. I remember one time I was talking about my future and how to pick a job and stuff. And he was telling me how you should do something you want to do and it's just nice to – some teachers want to talk about that, kind of, stuff…

This added support was especially appreciated when participants viewed it as "above and beyond" the adult's expected role. For example, one participant shared, "…most coaches kinda teach you the game, they're [VIP] more of like – they see something bigger so they teach you lessons in life and they want you to do good in everything". Extra effort, along with the support to pursue personal goals, seemed especially important to older participants.

Share Power. Sharing power, providing space for youth voice and decision making (Pekel, et al., 2015), was an especially prevalent theme for high school aged participants. High school aged youth highlighted the importance of a reciprocal conversation and emphasized the importance of the adult sharing with youth as well. For example, one participant explained, "Interviewer: …So it's mostly the closeness for you is feeling like you can be open with people?

Participant: Yeah, and like they make an effort to be open with me too." The lack of joint disclosure, for older youth, was even considered a reason why youth did not feel closer to specific adults. When asked why a specific adult was not rated a five on the closeness scale, one participant explained: "I don't know too much about him. I know his kids. But we really just talk about my life more than his".

In addition to mutual intimacy, several participants discussed the importance of a lack of formality, such as peer-like interactions, where youth and adults engaged as friends despite what could be perceived as a hierarchical relationship. One youth offered:

> … I worked for him over the summer doing lawn care stuff, so he's kind of like my boss, but he's also a pretty good friend. Like, he's – He would give me – Like, I could talk to him about personal stuff too.

When asked to compare two adults of different closeness levels, one youth explained:

> … I'm closer to her just because we hang out like friends. So yeah, she's just kind of like my friend. She's really cool…She acts kind of like an equal with me, and the older one, she's not that old, she's like 45 or something, like, sometimes tells me what, she acts more like an adult to me.

This casual space where youth feel engaged as peers and respected as an equal contributor was especially important for older youth.

Discussion

This study explores the ways youth interact with important individuals across their youth system, including both peers and adults. In reviewing participant social network maps, it is evident that youth systems vary; some youth had multiple peers and adults across multiple contexts, while others engaged with only a few individuals across only a few contexts. Although

literature suggests that peers become more important as youth age (Oris, et al., 2016), this did not result in more peer nominations by older youth, at least in this sample. The average reported closeness with peers was closely in line with that of the adults. Although it did appear as if high school aged youth relied on peers for support more than middle school youth in some areas, the differences were not significant. Additionally, more adults were nominated by high school aged participants than those in middle school. This finding supports previous research: adults remain an important source of support through adolescence (Pekel, et al., 2018).

Findings from the current study also emphasize that peers and adults are important sources of support. Our findings support previous literature (Olsson, et al., 2016) that highlight the fact that adults and peers offer different types of support. What is most striking in our data is that, for most of the types of support, both peers and adults were listed as important sources. Previous research has found that combined support from both parents and peers was associated with well-being, a relationship that was stronger than any source of support alone (Oris, et al., 2016). Findings from the current study emphasize the fact that multiple individuals can offer different types of support (Varga & Zaff, 2018). For example, peers were the primary source of companionship support, while adults remained a consistent source of informational support. This finding suggests that having options of individuals from whom to seek support, including both peers and adults, may be ideal in providing a broad array of support across contexts and situations. These results support Varga and Zaff's theory that networks of relationships, together, influence youth development. Additionally, these findings support the use of a youth system model, including an ecological examination of relationships, rather than focusing only on dyads.

Including more peer nominations was a significant predictor of character, which is defined as respect for societal and cultural roles and understanding of correct behavior. Character is a central individual characteristic and is thought to be gained by interacting with individuals, especially caring adults (Hamilton, Hamilton, & Pittman, 2004). Our findings, however, demonstrate that connections with caring peers may also be important in promoting character development, at least during adolescence. Peers play an important role during youth development, contributing to identity development and helping to teach important social skills (Bowers, et al., 2014). In addition, supportive peer relationships have been positively associated with self-esteem (Colarossi & Eccles, 2003). Therefore, the fact that more peer relationships contributes positively to character development is in line with previous literature, especially considering relationship needs change across time (Hamilton, Hamilton, & Pittman, 2004). Total nominations in general, including both peers and adults, was also a significant predictor of character, emphasizing the potential importance of a larger network involving both types of relationships. The different relationships found between access to peers and adults and individual attributes (i.e., competence, connection, and character) also highlight the fact that relationships with peers and adults are *both* important; relationships with adults and peers are both driving development, but in different, although equally important, areas.

The average closeness to adults and number of contexts accessed by the youth were both significant predictors of contribution. Research has found that positive relationships with teachers can have a positive impact on school bonding and engagement during adolescence (Yu, et al., 2018). Similarly, positive interactions that contribute to caring relationships with adults across multiple contexts may contribute to youth feeling more connected to their environments. Based on the theory of PYD, we expect for youth to increase in contribution when their

individual strengths are aligned with assets in their environment and the five C's are fostered (Bowers, et al., 2014). In addition, it is important to consider that adults are also an important source of social capital (Varga & Zaff, 2018). Often, the role of significant adults is to scaffold youth, supporting youth as they develop in critical ways (Keller & Pryce, 2010). More access to supportive individuals across multiple contexts increases the potential for this type of developmental relationship, which can provide access to opportunities for youth in a way where they may be in a better position to contribute. It is important to also consider the fact that individual characteristics impact the ways in which individuals interact with their environment; the relationship is bidirectional (Bowers, et al., 2014). Therefore, it is possible that students with more adult nominations possess specific individual traits that contribute both to their ability to engage with multiple individuals and to establish close relationships, as well as their tendency toward contributing. These individual traits may actually be driving this relationship, and more research is necessary to further examine this relationship.

The current study offers support for the five actions deemed necessary for developmental relationships (Pekel, et al., 2018). Both middle school and high school aged youth were drawn to adults that demonstrated care. This was often expressed by spending time with the youth, and by personality traits such as being "nice" and "funny". Previous literature spoke to similar findings, specifically in student-teacher relationships (Yu, et al., 2018) and informal mentoring relationships (Deutsch et al., 2020). Researchers have also found that personality traits such as agreeableness and extroversion are important factors in a mentoring relationship (Turban & Lee, 2007; Yu, et al., 2018). In addition to demonstrating care, older youth are seeking adults that help them grow and that respect their autonomy. This finding is in line with previous research

that demonstrates the importance of promoting youth autonomy during adolescence (Yu, et al., 2018).

Additionally, research suggests that fostering youth agency not only improves the youth-adult relationship but improves the promotion of social capital within youth-adult relationships (Varga, et al., unpublished). Older adolescents appreciated reciprocation and were looking for adults to share intimacy in peer-like relationships. Keller and Pryce (2010) found that adolescents tend to seek horizontal, or peer-like, relationships with mentors. However, findings support that a hybrid mentoring relationship, mixing peer-like aspects of a horizontal relationship with the support and scaffolding found in vertical relationships, was more effective in promoting positive outcomes for youth. Therefore, it is possible that non-parental adults that respect youth autonomy while also pushing youth to improve are important ecological assets, even when they are not formal mentors.

Our quantitative findings demonstrate that more adult nominations were associated with positive outcomes for youth, specifically higher contribution scores, as were larger networks in general. These qualitative results, however, remind us that the quality of those relationships are important as well. Adults being present in an environment is not sufficient for positive development to occur (Deutsch et al., 2020). Youth agency is a central premise of PYD, and it is important to remember that youth control whether or not they interact with an adult, what is disclosed, and how much they connect. Identifying attributes of youth-adult relationships that are important during adolescence is an important step in identifying how adults move beyond superficial relationships to developmental relationships (Deutsch, et al., 2020; Pekel, et al., 2018). As Zaff et al. propose, when relationships within an individual's ecology align with individual needs and strengths, positive development occurs and youth contribute to their

broader ecology (2016). Additionally, these findings support work by Varga and Zaff, which suggests that access to multiple positive relationships across multiple contexts is also important in positive development (2018).

Limitations and Future Directions

The mixed nature of this study provides insight into the ways in which youth navigate their youth systems. However, there are limitations to the design of this study. Although there is a great depth of information available, the small sample size limited the quantitative analysis that could be conducted. Future studies should utilize larger samples to test differences based on the role of the adult (i.e., parent, teacher, neighbor, etc.) and should examine fixed effects related to each specific context. This paper utilizes data from a larger study that examines youth-adult relationships. As a result, the emphasis placed on adult nominations during the mapping activity may be an artifact of the study intent and previous interview questions related to important adults. In addition, this paper utilized cross sectional social network and interview data, although PYD outcomes were longitudinal. Thus, differences in relational systems between older and younger youth do not reflect individual change in social networks over time. A longitudinal evaluation of the way in which systems of relationships change across adolescence would also provide more insight to any differences between younger and older youth. Future studies should expand on the analysis conducted, including attributes of peers, frequency, and duration of contact. Contexts in which youth develop are not independent; they interact with one another (Varga & Zaff, 2018). Therefore it would be important to include social network density, or interconnectedness of the network, in future studies. Finally, although this paper presents information that appears to be in support of the developmental relationships framework (Pekel, et al., 2018), the data does not permit evaluating whether the presence of

these actions contributes to positive development directly. Future studies should explore whether the presence of the five actions of developmental relationships predict positive outcomes for youth.

In this paper, we highlight the nested contexts in which youth develop. However, at the center of the model of PYD is the individual; development occurs through bidirectional relationships between the individual and their environment (Lerner, et al., 2011). It is, therefore, important to consider characteristics of the individual when examining the ecology in which a youth develops. This paper presents findings of an exploratory study focused on examining relationships with peers and parents across multiple contexts. However, in future studies, larger samples should be included to allow researchers the opportunity to include aspects of the individual. For example, a future study should consider whether relationships with peers and adults look different based on adolescent attachment style, relationships with other adults and peers in their environment. Additionally, future studies should explore whether the types of individuals accessed for support (peers, adults, or both) influence the relationship between aspects of a youth system and youth outcomes.

Conclusion

As youth age, their social networks grow (Zhang, et al., 2018), expanding their access to both peers and adults. These interactions offer an opportunity for support and can contribute positively to youth development. Larger youth systems, with multiple youth and adults with whom youth feel close across multiple contexts, appear to support positive development for adolescents. Steps to improve outcomes for youth, however, should not simply involve corralling as many adults as possible around adolescents; the quality of relationships is important to improve positive development for youth. Ensuring that relationships with adults are supportive

and caring is essential for ensuring positive development. Adults should strive to follow the five actions of developmental relationships (Pekel, et al., 2018) to ensure they are meeting youth's needs and are in a position to foster the positive change they hope to see within youth. For older adolescents, it is especially important to foster personal relationships with youth, while respecting their autonomy and scaffolding positive development. It's important to remember: regardless of intentions, adults can only have a positive impact on youth development if a youth is willing to engage.

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Appendix A

Table A1

Definitions of the 5 "C's" of PYD

C	Definition
Competence	Positive view of one's actions in domain specific areas including social, academic, cognitive, and vocational. Social competence pertains to interpersonal skills (e.g., conflict resolution). Cognitive competence pertains to cognitive abilities (e.g., decision making). School grades, attendance, and test scores are part of academic competence. Vocational competence involves work habits and career choice explorations, including entrepreneurship.
Confidence	An internal sense of overall positive self-worth and self-efficacy; one's global self-regard, as opposed to domain specific beliefs.
Connection	Positive bonds with people and institutions that are reflected in bidirectional exchanges between the individual and peers, family, school, and community in which both parties contribute to the relationship.
Character	Respect for societal and cultural rules, possession of standards for correct behaviors, a sense of right and wrong (morality), and integrity.
Caring	A sense of sympathy and empathy for others.

Note: Derived from Lerner et al. (2005b) and Roth and Brooks-Gunn (2003a)

Source. Lerner, von eye, Lerner, Lewin-Bizan, & Bowers (2010).

Appendix B

Table B1

Participant gender and age, by age group used for comparative analysis. Names represent pseudonyms chosen by participants

Participant Pseudonym	Gender	Age
Young Adolescence (n=21)		
Chief	Male	12
Drew Brees	Male	12
John	Male	12
Prime	Male	12
Red	Male	12
Skylar	Female	12
Swagballer19	Female	12
Abby	Female	13
Carrie	Female	13
Claire	Female	13
Jenna	Female	13
Lizzy	Female	13
Lucy	Female	13
Michael	Male	13
Missy	Female	13
Molly Hooper	Female	13
Nothing	Female	13
Robert	Male	13
Scooter	Male	13
Skye	Female	13
Time	Female	13
Older Adolescence (n=19)		
Jack	Male	14
Katherine	Female	14
PhilishaQueesha	Male	14
Z	Male	14
Bodos	Male	15
Johnny Depp	Male	15
Nicole	Female	15
Poncho	Female	15
Riley	Female	15
Bartholomew	Male	16
Bob	Male	16
Cecilia	Female	16
Colt	Male	16
Connor	Male	16
Karen	Female	16
McMolnakerson	Male	16

Rachel Cubed	Female	16
Rachel2	Female	16
Alicia	Female	17

Note. Names reflect pseudonyms chosen by each youth at start of study.

Appendix C

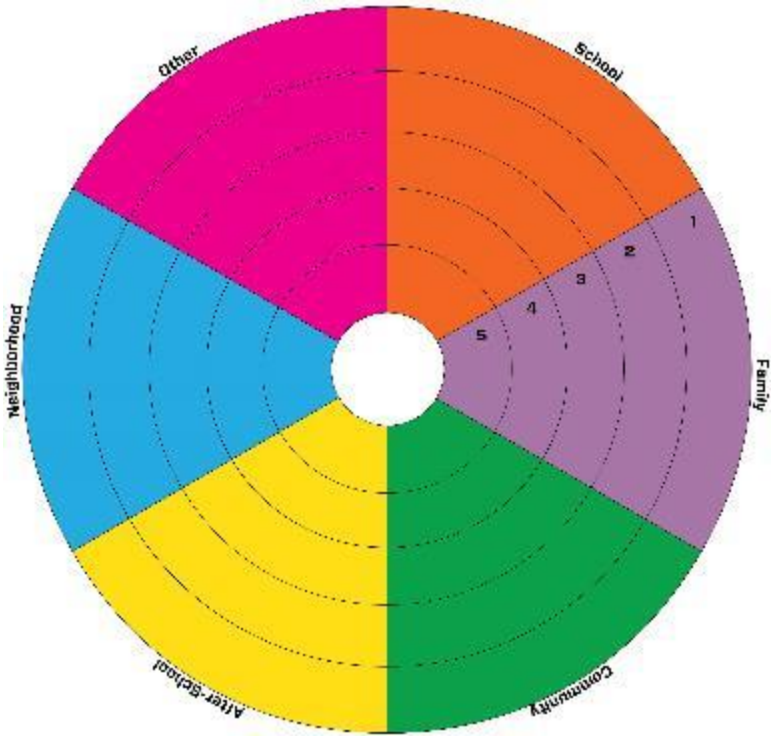

Figure C1. Social Network Map used during interviews with youth participants.

Appendix D

Interview Protocol Related to Social Network Maps

Introduction

"We are going to spend some time now talking about some of the people you know. I would like to get an idea of which family and friends and other people you feel have been most important to you and most helpful. To begin with, I am going to ask who you spend time with and who you turn to for different kinds of help. You can give me just their first names or their initials if you wish, and I will write them down on this list. Again, think carefully of the people you feel have been important to you for help or for spending time with. So think now about the important people in your life. Do you have any questions?"

*Interviewer: *Note: participant can put both adults and peers on the map.*

- *Go setting by setting, e.g., "Let's start with school. Who do you spend time with at school?"*
- *Have participant write the name of adult/peer on the Post-It flag with a black Sharpie. Let participant choose one color for adults and a different color for kids. Be sure to indicate which color pertains to adults and which pertains to kids on the map.*
- *Have participant place Post-It in the appropriate "setting" on the map, indicating closeness to adult by putting the Post-It into the appropriate section (5 = very close, 1 = not very close).Use the arrow side of the Post-It flag to indicate closeness, and make sure that the arrow's point is placed in the middle of the section.*
- *For each adult they place, ask them about why they placed them where they did. Example prompts you can use are:*
  - *Tell me about why X is a 4? What is it about X that makes you feel that close to him or her?*
  - *You placed X at 3 and Y at 5, can you tell me about how those two are different from each other? How are your relationships with these two adults different?*
- *If there are no adults that are far away (i.e. if everyone is a 3 or above) ask "Are there any adults in any of these settings who you'd say you are not close to, like a 1 or a 2?"*
- *Repeat for all adults/peers that participant lists. Make sure that VIP and Other Adult are included.*
- *Start the map with adults, and then move to peers. For youth with a lot of adults on the map, you can ask them to group peers (or for youth who don't have a lot of adults but once they start placing peers you realize they have a lot of peers). For example, you can ask if they have a group of cousins who they feel equally close to, they can put cousins on one post-it note and indicate how many cousins there are. Same with friends from a particular context, etc.*
- *If map isn't too crowded, have participant draw lines connecting VIP to the people he/she knows. If map is crowded, write down the names of the people on the map that VIP knows.*
- *With the dry-erase marker, have participant draw a star next to the most important adult in each setting. If there are no adults in one or more of the settings, participant can use those extra stars for adults in other settings. Participant can star up to 7 adults.*
- *With the dry-erase marker, have participant draw a line under Other Adult.*

List of important people (list by setting):

Prompt: "Now considering all of the people you have mentioned and are on our list here, which of these people does [VIP] know? By know, I mean have some sort of interaction beyond having just met them."
[*Interviewer: ONLY ask this question for child's named VIP – not everyone on the list.*]

1. Who does [VIP] know on the list?

Prompt: "Now I want to ask you about the behavior of the different people you've listed on your map. Who in your network has done each of the following in the last year (that you know of)?"
[*Interviewer: This question refers to all the people on the map, peers and adults, important and not important.*]

	Names	Don't know
1. Volunteered in their community or with a group		
2. Stolen something		
3. Helped someone out		
4. Gotten in a physical fight		
5. Voted		
6. Used drugs		
7. Gave or loaned money or things to someone		

8. Sold drugs		
9. Gave advice to someone		
10. Been involved in a gang		
11. Gotten an award or honor		
12. Gotten in trouble with the law		

SECTION FOUR
Social Network Questionnaire
Social Support

Prompt: "For the next five questions you can name any of the same people you named before, or you can name new people who you feel are important to you. Remember, think of any family, friend, or others that help you in the ways I ask about."
[*Interviewer: These questions are about everyone on the map – both adults and peers. If participant names someone that is not on the map, have him/her place that person on the map.*]

1. Who have you gone to if you needed to get some information or ideas? For example, if you needed to know how to go somewhere, or find out about something, who would you go to?

2. Who are the people who let you know you're okay; that tell you when they like your ideas, how you are, or the things that you do? Like tell you that you are a good person, have done something very well, or that you are clever or funny?

3. Who are the people that would help you with chores or other work? For example, who would help you do work around your home (where you stay) or help you with other jobs?

4. Who are the people you get together with to have fun or to relax? Who might you look to for having good times?

5. Who would you talk to about something that was very personal or private? For instance, if you had something on your mind that was worrying you or making you feel down, who would you talk to about it?

SECTION FIVE
Social Network Questionnaire
Social Network Configuration

[*Interviewer: After construction of the Social Network Map, the following questions are to be asked with regard to the* ***important adults (IAs) named on the Social Network map and to the non-important adult with whom the child spends a lot of time (P8)****. Be prepared to display the appropriate stimulus cards for each of the following questions and make the social network list easily visible to the respondent to facilitate the answering of questions. Rewrite the names or initials of important adults below, and number each adult. Use the SNQ Grid to record the child's answers, writing the corresponding number for each answer in the appropriate spot on the grid (where applicable).*]

Prompt: "Now I'm going to spend some time asking you some questions about the people you named as important adults to you in each setting so that I better understand how it is that you know them. I am going to ask you some questions about each of the people on the list one-by-one. I will show you cards to use to answer most questions."

List of Important Adults:

SNQ Questions

1. How old is [IA]? _____

2. Are they male or female? (1) Male (2) Female

3. What is [IA]'s ethnicity?
   _____

4. Here is a list of relationships. Which best describes [IA]'s relationship to you? What is the one category that best describes that person's relationship to you?

   ___ (1) Sister or brother
   ___ (2) Parent
   ___ (3) Boyfriend/Girlfriend
   ___ (4) Friend
   ___ (6) Co-worker
   ___ (7) Other family member
   ___ (8) Professional
   ___ (9) Other: _____

___ (5) Neighbor or neighborhood acquaintance

5. About how far away from you does [IA] live? How many blocks or miles away would you say?

___ (1) Lives with me
___ (2) Same building
___ (3) Same block
___ (4) 2-4 blocks away; same neighborhood
___ (5) 5+ blocks, less than 5 miles
___ (6) 5-20 miles away
___ (7) 21-100 miles away
___ (8) 100+ miles away

6. About how long have you known [IA]?

___ (1) Less than 1 week
___ (2) 1 week to 1 month
___ (3) 1 month to 1 year
___ (4) 1 year to 3 years
___ (5) More than 3 years

7. How or where do you know [IA] from? You may name more than one group if you know a person in more than one way.

___ (1) Family
___ (2) School
___ (3) Neighborhood
___ (4) Through other friends
___ (5) Church
___ (6) Work
___ (7) Social groups
___ (8) Other: _____

8. About how often do you talk to [IA] either face-to-face or by telephone?

___ (1) Less than once a month
___ (2) Less than once a week
___ (3) Once a week
___ (4) A couple of times a week
___ (5) Every day

9. Thinking about this relationship, how satisfied are you with your relationship with [IA]?

1	2	3	4	5
Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied

10. Here is a list of characteristics or qualities that makes people likable. Which one(s) do you like most about [IA]? You can name up to three.

___ (1) We help each other out
___ (2) We share or tell personal things with each other
___ (3) Is careful about my feelings
___ (4) I'm able to depend on him/her
___ (5) We spend time with each other
___ (6) She/he is loyal and sticks up for me
___ (7) Stays friendly even when we get mad at each other

___ (8) Likes me just as I am
___ (9) Accepts me just as I am
___ (10) I admire and respect him/her
___ (11) Like doing things together
___ (12) We believe the same things are important
___ (13) We're interested in or like the same things
___ (14) Able to talk to each other about how we feel about things
___ (15) Understanding about how each other feels about things
___ (16) Trust each other

Appendix E

Table E1

Preliminary codebook established from initial reviews of transcribed interviews

Code	Description	Exemplar
Closeness_Peers	Any discussion of closeness related to a peer; peer includes siblings	"Summer's in my grade and Savannah's two years older so we're going through – we're just really close, same age, just brings us together and just seeing them all the time."
Closeness_Adults	Any discussion of closeness related to an adult	"I mean I can't really say that I would say personal stuff to him but we've been really close with him and he's just always been there when we were really little."
Support_Peers	Any mention of support received from or given to peers - includes anyone of the same age, regardless of context; Peer includes siblings	"… I have three really good friends … they're just someone that I could talk to just because I do trust them and I feel like I can trust them and they're also really fun to be around"
Support_Adults	Mention of support received from or given to an adult - includes anyone from any context	"He was my old science teacher and he was – he I could actually talk to about personal stuff just because he really cared and asked"
Context	Any mention to context; this may relate to how they know someone, where they meet, etc. - this differs from contributing factors in that it is not related to WHY the individual feels close to the person, etc. - it's strictly background information	"Well, they know everyone in my family just because they're always over here, my family's over here"
Contributing Factors	Factors that relate to the relationship participate has; can include things such as time, distance, or even a specific personality trait of the individual	"I would say if it was more personal, I could probably go to my grandma just because, I don't know, she's just been like—I just feel like she understands everything."

SatisfactionWithRelationship	Discussions related to how satisfied individual is with relationship	“Interviewer:…How satisfied are you with your relationship with [adult]? Participant: I’d say very satisfied.”
Traits	This should include mentions about traits as they were discussed around networks, likely numbered codes related to interview question "what traits did this person exhibit"	“Okay. I would say, if I’m reading through them, two that stick out would be No. 13, saying we’re interested in or like the same things, and 16, that we trust each other.”
Misc.	Anything that seems important but isn't covered above	“I know my sister's like an adult and stuff but it's a different relationship that I have with her so it's not necessarily at the point where it's like this is the adult and this is me…”