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Parents' Participation in a Work-Based Anti-Poverty Program Can Enhance Their Children's Future Orientation: Understanding Pathways of Influence

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Abstract

Planning and preparing for life after high school is a central developmental task of American adolescents, and may be even more critical for low-income youth who are less likely to attend a four year college. This study investigates factors that led to the effects of the New Hope Project, a work-based, anti-poverty program directed at parents on youths' career-related thoughts and planning. The New Hope project was implemented in Milwaukee, WI, during the mid-1990s. 745 families participated (52% male children; 56% African American; 30% Latino, and 15% White non-Hispanic) and half were randomly selected to receive New Hope benefits, which included earnings supplements, job search assistance, and child and health care subsidies for three years. Importantly, effects on youths' future orientation were found eight years after the program began (five years after benefits ended). The present study investigates what factors sustained these positive impacts over time. Results indicate that parental perceptions of reading performance mediate the effects of New Hope on youths' cynicism about work. Additionally, parental perceptions of reading performance and youths' educational expectations mediate the effects of New Hope on boys' pessimism about future employment. These findings highlight the importance of youths' educational development to their career-related thoughts and planning.

Keywords

Future Orientation; Welfare; Poverty; Reading Skills; Adolescence

Introduction

As youth progress from childhood to adolescence, thinking about and preparing for the future becomes an increasingly important task (Nurmi 1991). The world of work becomes particularly salient as the transition to adulthood and the end of formal schooling nears. Because low-income youth are markedly less likely to transition from secondary to postsecondary education than youth from economically advantaged families (Aud et al. 2010), they often lack the supports for career planning and decision-making that college typically affords (Arnett 2000). Consequently, the work-related attitudes that they develop and the work-related preparations that they undertake prior to completing or leaving high school are particularly important. Relatively little is known about the developmental

processes that shape low-income youths' attitudes about and preparation for future employment (Chaves et al. 2004).

In a previous study (McLoyd et al. 2011), New Hope, a work-based, anti-poverty program for low-income adults, was found to have positive effects on the future orientation of the children of these adults. Specifically, eight years after New Hope began and five years after New Hope benefits ended (earnings supplements, job search assistance, child and health care subsidies), youth of parents in the New Hope program group were significantly more engaged in career preparatory activities and had lower levels of cynicism about the world of work than youth whose parents were assigned to the control group. The present study sought to identify factors that mediated these effects. By examining mediational effects, this study sheds light on the processes through which a parent-focused program influenced career-related outcomes among low income youth.

The Importance of Future Orientation among Low Income Youth

Future orientation is a set of cognitive, attitudinal, and motivational constructs that lead individuals to form expectations for the future, set goals and aspirations, and give personal meaning to future events (Nurmi 1991; Steinberg et al. 2009). The life domains typically considered in research and writings about adolescents' future orientation include work, schooling, romantic relationships, and childbearing (Nurmi 1991). Future orientation is associated with numerous indicators of positive development in low-income youth. Clausen's (1991) seminal work on planful competence found that, among low SES youth, higher levels of planful competence (a component of future orientation) during adolescence were predictive of upward mobility during adulthood. Research also links positive future orientation and expectations to higher levels of well-being among disadvantaged and at-risk adolescent populations, including better socioemotional and school adjustment (Wyman et al. 1993), greater feelings of efficacy and responsibility for one's life and decisions (Kerpelman and Mosher 2004), fewer conduct problems (Quinton et al. 1993), and lower risk of several problematic behaviors (e.g., substance abuse, delinquency, adolescent pregnancy; Murray 1996; Wyman et al. 1993).

Context and the Development of Future Orientation among Low-Income Youth

Although future orientation is likely influenced by both cognitive and psychosocial development, the contexts in which youth develop also play a large role in both the structure and content of their future orientation (McCabe and Barnett 2000; Nurmi 1991; Vondracek et al. 1986). Low-income youth generally are less optimistic about their future than economically advantaged youth. They report lower educational and occupational expectations and more perceived barriers to future success than their middle-class peers and have a larger gap between occupational aspirations and expectations (Cook et al. 1996; Mello 2009). Among youth making the school-to-work transition, low-SES youth, compared to more economically advantaged youth, report more barriers to advancing in career-related and educational pursuits and have fewer resources and supports to help them transition successfully (Blustein et al. 2002). Low-income adolescents are less optimistic about their future than economically advantaged youth, in part, because aspects of their environments, such as neighborhood poverty and parental unemployment, often work to depress their optimism about future possibilities (MacLeod 1987).

Future orientation is also influenced by youths' cultural surroundings and the behaviors of their parents. (Nurmi 1991; McCabe and Barnett 2000; Seginer et al. 2004). Prior work indicates that family support is a key factor in the development of positive future orientation among economically disadvantaged youth (McCabe and Barnett 2000), especially for career-related and school-related aspects of future orientation (Kenny et al. 2003). In the

present study, we sought to understand how a program that affected multiple aspects of youths' contexts and individual development also promoted youths' career-related future orientation.

Understanding New Hope's Effects

This study focuses on pathways by which New Hope exerted its effects on youths' career-related future orientation. Implemented in inner-city Milwaukee in 1994 (Huston et al. 2001), New Hope sought to improve the lives of low-income adults by providing increases in employment and income. It was guided by the principles that people who are willing to work full-time should have the opportunity to do so, and that people who work full-time should not be poor. In exchange for agreeing to work at least 30 hours per week, adults assigned to the program group received job search assistance, income supports to bring them above the poverty level, and child care and health insurance subsidies. The Child and Family Study of New Hope focused on examining how program participation impacted families and children of participating adults. Although the program targeted low income adults, effects on the family were anticipated and the Child and Family component sought to examine them.

As noted previously, 8 years after the program began (5 years after benefits ended), New Hope youth (youth whose parents were assigned to the program group) reported significantly more engagement in career preparatory activities and lower levels of cynicism about the world of work than control group youth. These effects were concentrated among program group boys. Additionally, New Hope boys reported lower levels of pessimism about their own future employment and financial future than their control group counterparts (McLoyd et al. 2011). Because of the long lasting nature of these effects, it is important to understand the mediating processes that sustained them over time.

Hypothesized Mediators of New Hope's Effects on Adolescent Future Orientation

To be examined as a mediator of the impacts on youths' future orientation, variables had to meet two criteria: 1) they had to be significantly impacted by the New Hope program at the 5-year follow-up (two years after program benefits ended), and 2) they had to be supported by theory and prior empirical work. Both contextual and individual level variables are considered as possible mediators, as they both provide constraints that produce stability in behavior over time. That is, effects of New Hope during the three year program period likely continued into later years because the program produced changes in the environments youth experienced and in the youths' own characteristics that were sustained even after program benefits ended (Cairns and Cairns 1994).

We hypothesize that four mechanisms (shown in Figure 1) mediate the effects of New Hope on youths' career-related future orientation. The first two hypothesized mechanisms, parental employment and participation in before- and after-school programs, are grounded in ecological theory. Ecological theory posits that human development occurs through dynamic interactions between the individual and their environment (Bronfenbrenner and Morris 1998). Within this framework, prior research has shown that children's environments have substantial influence on how they think about the world of work (Vondracek et al. 1986). From this, we hypothesize the New Hope-induced changes in the contexts children developed in may have promoted changes in their future orientation.

Our second two hypothesized mediating mechanisms, children's academic skills and children's educational expectations, are both individual attributes that New Hope impacted. Our hypotheses about their importance to youths' later future orientation are grounded in social cognitive theory. Social cognitive theory posits that self-efficacy, or beliefs about one's capabilities to learn or perform behaviors, are grounded in one's current achievement

and environment, and shape one's thoughts and choices about later tasks (Bandura 1989; Schunk and Pajares 2002). We hypothesize that the earlier positive effects of New Hope on these individual attributes contributed to youths' more positive future orientation because they facilitated the development of positive self-beliefs among program group youth. It is important to note that while we present these two theoretical perspectives separately, we recognize that it is likely a dynamic interplay across the two that facilitated the developmental processes that produced New Hope's effects on youth. That is, changes in youths' environment may have led to changes in youths' self-efficacy, and conversely, changes in self-efficacy may have evoked different inputs from the environment. In the following sections, we elaborate on the theoretical frameworks guiding our selection of hypothesized mediators, and, in particular, highlight studies that support the tenability of our hypothesized mediators of the New Hope effects.

Parental employment and income—The family system is a primary context in which youth develop in and that youths' development in this context is influenced by their parents' employment situations (Bronfenbrenner 1986). A number of studies have shown that parental employment and earnings have important relationships to youths' thoughts about their own economic futures. For example, prior research indicates that adolescents are more optimistic about their economic and occupational futures if their parents are employed (Quane and Rankin 1998), if they perceive their families as experiencing less financial strain (Flanagan 1990; McLoyd and Jozefowicz 1996), and if they perceive their parents as having more favorable work experiences (Neblett and Cortina 2006). Additionally, parents who experience economic hardship and job loss are more pessimistic about their children's future and feel less confident about their ability to help their children prepare for the world of work (Galambos and Silbereisen 1987; Flanagan 1990). At the five-year follow-up, New Hope parents were employed more quarters since the program began than control group parents and reported higher earnings over the same time period. It is probable that these effects of New Hope increased parents' expectations for their children's employment futures, which may have increased the amount of positive future-oriented messages youth received. Furthermore, New Hope-generated increases in family earnings may have accentuated the desirability and rewards of working. Taken together, it is plausible that the positive effects of New Hope on parental employment and earnings led youth to be less cynical about the meaning and importance of work and more optimistic about their own economic and employment futures.

Before- and after-school programs—As children age, contexts outside the home play an increasingly important role in shaping their development (Steinberg and Morris 2001). In particular, their experiences outside the home may play an important role in shaping their ideas about future careers and opportunities to learn about career choices. We hypothesize that New Hope's effect on participation in before- and after-school programs, one such out-of-home context, mediated program effects on youths' future orientation. Participation in before- and after-school programs likely increased youths' contact with extra-familial adults, thereby increasing their social capital. This contact with adults may have provided mentorship to youth and encouraged positive attitudes about future employment prospects. Supportive relationships with adults are critical resources that youth need to plan and prepare effectively for their future and the world of work (Phillips et al. 2002). In addition to the attitudinal advantages relationships with adults can provide, they are also likely to increase the tangible opportunities that youth have to prepare for their future. For example, a youth group leader may connect youth to community members who hold desirable jobs and who have the resources to organize job shadowing experiences for interested youth. Furthermore, a burgeoning body of research has shown that participation in after-school programs is linked to a wealth of positive developmental outcomes for children and

adolescents, including better school performance and fewer problem behaviors (see Durlak et al. 2010 and Mahoney et al. 2009 for recent reviews). Interestingly, the recent meta-analysis by Durlak and colleagues showed that after-school programs are associated with children's positive self-perceptions, including self-esteem and self-efficacy (Durlak et al., 2010). It is plausible to think that these positive attitudes may extend to specific domains, such as youths' perceptions of their own future careers. At the 5-year follow-up, New Hope youth were participating in significantly more before- and after-school programs, which may have facilitated these relationships, experiences, and attitudes.

Academic skills—Youths' feelings of efficacy and optimism are grounded in their current experiences (Schunck and Pajares 2002). Therefore, it is probable that New Hope youth displayed greater optimism about the future because they experienced more success in their day-to-day lives. Specifically, youths' successes at school may have led them to be more positive about their employment and financial futures, in part, because success in school domains is closely linked to educational attainment (Ensminger and Slusarcick 1992; Jimerson et al. 2000; Ripple & Luthar 2000). Low income youths' academic success has been shown to predict educational expectations (Ensminger and Slusarcick 1992; Mello, 2008) and it is likely that similar relationships hold between academic success and expectations for occupational and financial security. To this end, Bandura and colleagues (2001) found that youths' efficacy beliefs about different career paths were grounded in their academic achievement and expectations. This supports the idea that higher levels of achievement may promote more positive attitudes and behaviors related to future careers. At the 5-year follow-up, New Hope youth had significantly higher reading scores on the Woodcock-Johnson achievement test. Additionally, parents of New Hope youth reported higher reading performance, based on school report cards, than control group parents.

Educational expectations—Social cognitive theory, as well as other motivational theories (e.g. expectancy value theory), highlight the importance of self-beliefs for one's values and behaviors (Bandura et al 2001; Wigfield and Eccles 2000). We hypothesize that stronger expectations for college attendance and graduation, found among program group youth at the 5-year follow-up, represents one such self-belief that may have translated into more positive career-related attitudes and behaviors at the 8-year follow-up. Expectations for success in academics may translate into expectations for success in careers because of the close connections between educational and occupational success in American society. Indeed, prior cross-sectional research has shown that among low-SES, minority youth, thoughts about educational and occupational futures are highly correlated (Kerpelman and Mosher 2004). Other work conducted with low-income, urban boys found that youths' expectations for future careers (in terms of occupational prestige) were grounded in their expectations for educational attainment (Cook et al. 1996). Thus, the impact of New Hope on youths' optimism for future success, and related planning behaviors, may reflect carryover effects from earlier impacts on educational expectations.

New Hope's Effects on Boys' Future Orientation

At the 8-year follow-up, New Hope significantly impacted boys', but not girls, pessimism about future employment and financial security. Additionally, New Hope's effects on cynicism about work and career preparation were concentrated among boys. This pattern of effects mirrors a similar concentration of effects on boys found at earlier follow-ups. At the 5-year follow-up, subgroup analyses revealed that program group boys, compared to control group boys, had significantly higher levels of parent-reported reading performance and higher educational expectations (Huston et al. 2005). In contrast, there were no significant differences between New Hope girls and control group girls.

These positive impacts on boys may have provided them with a more positive outlook on their future and given them more hope that they would be able to obtain the employment and financial security they desired as adults. Boys' better school performance, for example, could have led to experiences of success and feelings of efficacy and optimism that were self-perpetuating (Bandura et al. 2001; Cook et al. 1996). Thus, we hypothesize that the concentration of New Hope's effects on boys are primarily due to gender differences in earlier impacts on academic behavior and educational expectations. That is, we do not anticipate gender differences in the relationships between mediating variables and outcomes: we expect that earlier gender differences in program effects will drive the differences in the impacts on future orientation variables.

Summary of Research Questions & Hypotheses

The first aim of this paper is to examine longitudinal mediators of the New Hope programs effects on economically disadvantaged youths' career-related attitudes and preparatory behavior. Specifically, we hypothesize that 5-year program impacts on parental employment and earnings, youths' participation in before- and after-school programs, youths' academic skills, and youths' educational expectations will mediate the 8-year impacts on youths' cynicism about work and career preparation activities. The second aim is to examine whether the 5-year program impacts on boys mediate the 8-year impacts on boys' cynicism about work, pessimism about the future, and career preparation activities.

Method

Sample

The sample for the present work was drawn from the Child and Family Study (CFS) of the New Hope Project. The Child and Family Study (CFS) sample includes all 745 adult sample members who had one or more children between the ages of 13 months and 10 years 11 months at the time of random assignment. If a family had more than one child within the targeted age range, two children were randomly chosen as "focal children," with the restriction that opposite-sex siblings were given preference over same-sex siblings. Families were randomly assigned to the program group, which had access to the New Hope benefits, or the control group, which did not. The analyses for this study will be based on data from 1105 youth (52% boys; 56% African American; 30% Latino, and 15% White non-Hispanic) in 745 families who participated in the Child and Family Study. Of the 1105 youth, 544 were from families that participated in New Hope and 566 were in control families. Table 1 provides parental baseline descriptives.

Data were collected through in-home interviews, with youth providing information about themselves via face-to-face interviews with program staff and self-administered questionnaires. Data utilized in the present study were drawn from three different data collection points. New Hope status and control variables were collected at baseline (youth aged 1-10 years), before New Hope benefits were initiated. Hypothesized mediators were measured at five years post-baseline, two years after New Hope benefits had ended (youth aged 6-15 years). Outcome variables were collected eight years post-baseline, five years after the program ended (youth aged 9-19 years). The career preparation measure was deemed developmentally inappropriate for younger children and was administered only to youth ages 12 and older ($n = 623$; mean age = 15.7 years; $s.d. = 2.39$). The demographic characteristics of this older youth subsample are comparable to those of the younger children. Mediators were assessed at the 5-year follow-up, the time point that is closest temporally to the outcome variables. If program effects on mediators were not sustained through the five-year time point, it is unlikely that they would represent processes through which the focal eight-year outcomes are produced.

Measures

Independent Variable

New Hope status (Baseline): The focal independent variable for this study is assignment to the New Hope program group or control group, which was determined at the baseline of the experiment, 8 years before the outcome variables were measured.

Dependent Variables

Cynicism about work (8-year follow-up): This 6-item scale, adapted from Stern et al. (1990), assesses youths' cynicism about work and the value they attach to work ($\alpha=.56$). The items are statements, and the child indicates on a four-point scale his or her level of agreement with each one (1 = *strongly disagree*; 4 = *strongly agree*). Sample items include, "If I had the chance, I would go through life without ever working," and "There is no such thing as a company that cares about its employees."

Pessimism about future employment (8-year follow-up): Youth reported on their expectations for employment and financial difficulties during adulthood using a 6-point scale ($\alpha=.64$) adapted from McLoyd and Jozefowicz (1996). They indicated how likely they were to experience difficulty finding a good job as an adult, lose a job, experience difficulty supporting a family financially, and have a good job as an adult (reverse coded), with response categories ranging from 1 (*very unlikely*) to 6 (*very likely*).

Involvement in employment and career preparation activities (8-year follow-up): Youth ages 12-19 (the older subsample of youth) indicated on a 4-point scale how often during the past year they had done certain activities intended to help prepare for future employment and careers ($\alpha=.78$: 1 = *never*; 4 = *more than five times*). Sample activities included talking with a teacher or other adult at school about post-high school plans and having discussions with adults outside of school about careers and work. Items were adapted from the Career Academies Study (Kemple et al. 1999).

Mediating Variables

Parental employment (5-year follow-up): Two dimensions of parental employment were assessed at the five year follow-up. The *number of quarters employed* and the *average earnings-related income* between random assignment and the 5-year follow-up were assessed using unemployment insurance earnings records, which were obtained administratively.

Before- and after-school programs (5-year follow-up): Parents were how often did their child go to a *before- or after-school care program* during the last school year and responded using a 5-point scale ranging from *never* to *about every day*.

Youths' standardized reading scores (5-year follow-up): To assess reading competency, children completed four scales from the Woodcock-Johnson Achievement Battery—Revised (Woodcock and Johnson 1990). Two of these (Letter-Word Identification and Passage Comprehension) measure reading skills, and the average of these two constitutes the *Broad Reading* score. The Woodcock-Johnson was selected because its normative sample is large and representative and it includes children from diverse ethnic groups and diverse types of schooling. The standard score for each scale is obtained by comparing the child's score with norms for his or her chronological age group. The mean standard score for the population as a whole is 100, with a standard deviation of 15.

Parental perception of youths' reading performance (5-year follow-up): Based on knowledge of recent report cards, parents evaluated their child's performance in reading on a 5-point scale ranging from *poor* (1) to *excellent* (5).

Youths' educational expectations (5-year follow-up): Youths' (ages 9-16) expectations were assessed with 2 items asking how sure the child was that he or she would (a) go to college and (b) finish college ($\alpha=.63$: 1 = *Not at all sure*; 5 = *Very sure*) (Cook et al. 1996).

Control variables (Baseline): Consistent with prior examinations of New Hope impacts (Huston et al., 2001), a number of parental baseline covariates were included in analyses to increase the precision of the experimental-control comparison. Models presented in the results include the full set of controls, which produces more conservative estimates. However, models conducted without covariates produced similar results (available from the first author). The baseline parental covariates included are: having a high school diploma or general equivalency diploma, gender of the reporting parent; parental age; parental race/ethnicity (1=African American; 0=non-African American); having a child under the age of 2 years; having more than three children; receipt of welfare in the prior year; receiving AFDC in family of origin; having a car; having ever been employed full time; neighborhood (north side or south side); current employment status; and earnings during the year prior to random assignment. Child age and gender were also entered as covariates.

Analysis Plan

Missing data: Because of participant attrition across the 8 years of the CFS, there are missing data at the 5 and 8 year data collection points. Using the original 745 parents and 1,140 eligible focal children as a base, the response rate for the 8-year follow-up was 80% for parents and 76% for focal children. The percentages of program (75%) and control group (76%) youth who responded did not differ significantly. Youth who participated in the 8-year follow-up were significantly different ($p<.05$) from non-responders on the following baseline parental characteristics. Their parents were likely to be female, to be African American, to have three or more children at home, to live on the north side rather than the south side of Milwaukee, to have been receiving public assistance at baseline, and to have been in an AFDC childhood home. They were less likely to have reported having a high school diploma or GED at baseline. They did not differ on parents' age, having only one child at home, employment at baseline, past earnings or car ownership. To correct for possible non-random attrition and missing data, multiple imputation was employed in all analyses. Multiple imputation has been shown to be a more efficient missing data technique and to produce less bias in coefficients than traditional methods such as listwise deletion, pairwise deletion, and mean imputation (Schafer and Graham 2002). Multiple imputation programs predict each participant's missing values from his or her own observed values, while adding in random noise to preserve a correct amount of variability in missing data. PROC MI in SAS 9.1.3 (SAS Institute 2008) was utilized to generate 50 imputed datasets. Recent developments have indicated that a large number of multiply imputed datasets are needed for adequate power to detect small effect sizes (Graham et al. 2007). For measures that should be missing — for example, measures given only to children age 12 and older — values were set to missing after the imputation. Additionally, missing values on the dependent variables were set to missing post-imputation, as simulation studies have shown that leaving imputed values of dependent variables in models does not provide additional information and can add noise (von Hippel 2007).

All model testing was conducted using the MPLUS (Muthén and Muthén 2007) software. MPLUS was optimal for these analyses because of its capacity to conduct path analyses and structural equation modeling and options for testing direct and indirect (mediated) effects.

Additionally, MPLUS allows for the adjustment of standard errors to account for the non-independence present in the data because of fact that some study participants are siblings. In all model testing, Huber-White standard errors were estimated to correct for this clustering within families (Huber 1967; White 1982). Furthermore, MPLUS allows for the use of multiply imputed datasets.

Testing mediators of New Hope's effects: As shown in Figure 1, hypotheses were tested by specifying a multiple mediation model, which estimated the direct effect of New Hope on each outcome variable and the indirect effects of New Hope through each of the hypothesized mediators. Separate models were estimated for each outcome variable. Because of the possible correlations among mediators, models were initially tested with a single mediator at a time. If multiple measures were found to mediate New Hope's effect on an outcome, these mediators were then tested simultaneously in a multiple mediator model. This strategy prevents issues of collinearity among mediators, but allows for the elimination of spurious relationships between variables.

Mediation effects were derived using the product-of-coefficients method (MacKinnon et al. 2002; Preacher and Hayes 2004). In this approach, the significance of the mediating variable is tested by dividing the coefficient of the variable by its standard error and then comparing this value to a standard normal distribution (MacKinnon et al. 2002). The mediating coefficient is the product of two coefficients: the mediator regressed on the independent variable (a ; $X \rightarrow M$) and the dependent variable regressed on the mediator (b ; $M \rightarrow Y$). Models were run conducted to test mediation of New Hope's effects on the full sample, and New Hope's effects on the boys. Two-tailed tests with an alpha of .10 were used to assess the statistical significance of relationships between independent and dependent variables. This alpha level is equivalent to a one-tailed test at $p = .05$, which is appropriate for detecting the hypothesized program effects, but leaves open the possibility of detecting unpredicted effects as well. This procedure has been utilized frequently in prior studies of the effects of welfare programs on children and adolescents (e.g. Gennetian and Miller 2002).

Results

Mediators of New Hope's Effects on Full Sample

Although the mediation effect was tested directly (MacKinnon et al. 2002), results are presented in line with the *causal steps approach* (Baron & Kenny 1986) for ease of interpretation. *Causal steps* requires examining four different paths (a , b , c , $a \times b$). Effects of New Hope on the outcome and mediator variables observed in prior work (i.e., Huston et al. 2005; McLoyd et al. 2011) were replicated to establish paths c and a . Next, new analyses were conducted to examine relationships between mediator and outcome variables (path b) and to examine mediational pathways between New Hope, potential mediators, and youth outcomes (path $a \times b$).

Relationships between hypothesized mediators and outcome variables—Here, we examined associations between our mediators, chosen because they have been shown to be impacted by the New Hope program at the 5-year follow-up, and our focal outcomes (cynicism about work and career preparation), chosen because they were impacted by New Hope at the 8-year follow-up. As shown in Table 2 (labeled as $M \rightarrow Y$), several of the hypothesized mediators were related to youths' cynicism about work in the expected direction, including youths' academic achievement, participation in before- and after-school activities, and educational expectations. Specifically, higher scores on the reading section of the Woodcock-Johnson battery ($B = -.01(.00)$; $p = .01$) and higher parent-reported reading

performance ($B = -.04(.02)$; $p .05$) both predicted lower levels of cynicism about work. More frequent participation in before- and after-school programs ($B = -.03(.01)$; $p .10$) was also predictive of lower levels of cynicism about work. Youth who reported stronger educational expectations also reported lower levels of cynicism about work ($B = -.05(.03)$; $p .10$).

Few predictors of career preparation emerged. Educational expectations ($B = .06(.04)$; $p .10$) positively predicted involvement in career preparation activities. Contrary to hypotheses, parental employment ($B = -.06(.03)$; $p .10$) and parental earnings ($B = -.01(.01)$; $p .05$) both predicted lower involvement in career preparatory activities.

Tests of mediation—To directly test for mediating effects, the path a times b was created and its significance was tested. Results are presented in Table 2. Effect sizes (es) for significant mediating effects were obtained by dividing the mediated effect (ab) by the total effect (c). This indicates the proportion of the total effect that is explained through the mediating pathway (MacKinnon 2008). Parent-reported reading performance ($B = -.01(.01)$; $p .10$, $es = .13$) was the only significant mediator of the effect of New Hope on youths' cynicism about work. Importantly, when the mediating effect was included in the models, the effects of New Hope were still significant, indicating partial, not full, mediation. Surprisingly, parental income ($B = -.02(.01)$; $p .10$; $es = .15$) negatively mediated the relationship between New Hope and career preparation. More specifically, New Hope increased parental earnings, which then predicted lower levels of career preparation. Because the overall effect of New Hope on career preparation was positive, other unmeasured mediators must be contributing to the effect.

Mediators of New Hope's Effects on Boys

Relationships between hypothesized mediators and outcome variables—

Among boys, paths were tested between mediators and three outcomes previously found to be impacted by New Hope among this subgroup: cynicism about work, pessimism about future employment, career preparation. Results are shown in Table 3. Higher Woodcock-Johnson scores ($B = -.01(.00)$; $p .01$) and parental perceptions of reading performance ($B = -.05(.03)$; $p .05$) predicted lower levels of cynicism about work. Boys with stronger educational expectations ($B = .08(.04)$; $p .10$) also reported lower levels of cynicism about work.

Several hypothesized mediators predicted lower levels of pessimism about future employment among boys. Specifically, higher levels of participation in before- and after-school programs ($B = -.09(.03)$; $p .01$) predicted less pessimism about future employment. Woodcock-Johnson reading scores ($B = -.01(.00)$; $p .05$) and parental perceptions of reading performance ($B = -.15(.04)$; $p .01$) also predicted lower levels of pessimism about future employment. Lastly, boys with stronger educational expectations ($B = -.20(.08)$; $p .01$) reported lower levels of pessimism about their future employment.

In contrast to results for pessimism about future employment, few predictors of career preparation emerged. Only educational expectations predicted higher levels of career preparation among boys ($B = .08(.05)$; $p .10$).

Tests of mediation—Next, direct tests of mediation of New Hope's effects on boys' future orientation were conducted. As shown in Table 3, no significant mediators of the program effects on boys' cynicism about work or career preparation were found. However, both parent-reported reading performance ($B = -.04(.02)$; $p .10$, $es = .14$) and youths' educational expectations ($B = -.05(.03)$; $p .10$, $es = .20$) were significant mediators of New Hope's effect on boys' pessimism about employment. When both were entered into a multiple mediator model, each mediator remained statistically significant. Additionally, the

effect of New Hope remained significant, indicating that together the two mediators still only partially accounted for the New Hope effect on boys' pessimism about future employment. Effect size estimates indicated that parental perceptions of reading performance and educational expectations explain approximately 32% of the total effect of New Hope on boys' pessimism about future employment.

Discussion

Although it is well documented that low-income youth, compared to more affluent youth, are less optimistic about their future (Cook et al., 1996; Mello, 2009), relatively little is known about the developmental processes that shape low-income youths' future orientation. New Hope, a work-based antipoverty program for low-income adults, had positive effects on the future orientation of the children of these adults five years after the program ended. It significantly increased youths' engagement in career preparatory activities and diminished cynicism about the world of work. These findings presented a unique opportunity to test theoretically and empirically based hypotheses about processes that are involved when salutary changes in parents' economic resources translate into positive changes in youths' employment and career-related future orientation. Tests of these hypotheses in the present study yielded mixed, but interesting findings that add to our understanding of how career-related behaviors and attitudes develop among low-income youth.

Parental reports of youths' reading performance emerged as a mediator of program effects on cynicism about work for the full sample, and as a mediator of program effects on boys' pessimism about future employment. That this variable operated as a mediator across outcomes and subgroups bolsters confidence in its significance. We also found evidence that boys' educational expectations mediated the effect of New Hope on boys' pessimism about future employment. Given the theoretical and empirical bases for our hypotheses, and the fact that the hypothesized mediators included both contextual variables (e.g., parental employment, participation in out-of-home activities) and individual-level variables (e.g., youths' academic skills, social behaviors), we were surprised that so few variables emerged as significant mediators of program effects.

The relative dearth of significant mediators may be rooted in the nature of the New Hope program itself. New Hope was designed to be a flexible program that allowed families to tailor the use of benefits to their own needs. Although this flexibility may be a strong approach to intervention, the resulting variability in the use of program benefits makes it challenging to isolate mediators of program effects across families. Because New Hope families utilized benefits in individualized ways, there were not uniform changes on the contexts children experienced. This diversity, in turn, probably produced variation in the processes that led to program-induced changes in children's academic and social development. For example, the income supplement may have allowed parents in some families to purchase more cognitively-stimulating toys and books for children to use at home, which led to increased academic achievement. Other families may have utilized the childcare subsidy, which provided children with access to learning experiences outside the home.

Although we believe that there is theoretical and empirical value in identifying specific mediators of program effects, a more holistic approach to mediation may have yielded more robust findings. Other researchers seeking to identify mediators of New Hope effects at the 5-year follow-up (the present study focused on effects at the 8-year follow-up) have combined potential mediating variables and examined cumulative risk and cumulative advantage indices as mediators. Gassman-Pines and Yoshikawa (2006) found evidence that impacts of New Hope on children's achievement and behavior were mediated through

reductions in the cumulative risk experienced by program group children, although these relationships were found only for the subsample of children whose parents were long-term welfare recipients. Walker (2008) employed a similar approach, but focused on cumulative advantage as opposed to cumulative risk. She found that the cumulative, developmentally relevant advantages that New Hope afforded children (e.g., increased income, licensed child care) partially mediated New Hope's effects on children's school achievement. However, no similar pathway between New Hope and children's non-cognitive skills was found. Utilizing more holistic approaches, and as well as using information about families' unique patterns of program utilization to inform analysis of mediating influences, are important directions for future research seeking to identify processes through which welfare programs affect children and adolescents.

Mediators of New Hope's Effects on the Full Sample

Parental perceptions of reading performance mediated the effect of New Hope on youths' cynicism about work. The importance of reading performance to youths' attitudes about the meaning of work is not immediately obvious. One possible explanation is that there is a direct effect of reading performance (as reported by parents) on cynicism about work. Youth who have stronger reading skills may process information about the world of work differently than those with weaker reading skills, which in turn may lead to different attitudes. Another perhaps more likely explanation is that youth who do well in reading in school evoke different inputs from their developmental contexts than do youth with lower levels of school reading performance, and these differential experiences may shape attitudes about work. For example, youth with higher reading performances may have more positive relationships with adults in their schools and neighborhoods. These relationships may provide them with information about work and its meaning.

Interestingly, while parental perceptions of reading performance significantly mediated the effects of New Hope on youths' cynicism about work, youths' reading achievement scores, assessed by the Woodcock-Johnson battery, did not, although they did show a similar pattern. One possible explanation for this discrepancy is that parental perceptions are grounded in a more diverse set of skills than are tested by the Woodcock-Johnson and that these skills are more predictive of youths' future orientation. Indeed, although parental perceptions of reading performance are correlated most highly with Woodcock-Johnson reading scores ($R=.36$), they are also correlated significantly with parents' expectations for youths' educational attainment ($R=.29$) and parents' ratings of youths' positive behavior skills ($R=.22$). Multivariate regression analyses revealed that, while Woodcock-Johnson reading scores were the strongest predictor ($B=.31$), parents' expectations ($B=.17$) and reports of positive behavior ($B=.13$), both significantly and uniquely, predicted parental reading reports. It may also be that parents who perceive their children to have more advanced reading skills are sending more positive messages to them about their future and what to expect when entering the world of work. Alternatively, there could be other parental characteristics that are related to both parental perceptions of children's reading abilities that partially explain its relationship with youths' cynicism. For example, parents who are more supportive also may have higher perceptions of their children's abilities, and may also take a more engaged role in preparing their child for the world of work.

One surprising finding that emerged was the mediated effect of parental earnings on youths' career preparation. Contrary to hypotheses, the program-induced increase in earnings *negatively* predicted involvement in career preparation activities. In the U.S. educational and occupational structure, career preparation during adolescence is often considered to be less important for youth planning to attend college (Rosenbaum 2001). Thus, it may be that increases in earnings led New Hope parents and youth to focus more on college preparation because it was more financially feasible. Although youths' expectations about educational

and occupational attainment are clearly linked (Cook et al. 1996; Kerpelman and Mosher 2004), we were unable to identify any prior work that assessed linkages between college preparation and career preparation among low-income youth. However, in their study of economically disadvantaged youth, McCabe and Barnett (2000) found a negative relationship between family income and optimistic attitudes about the future. They hypothesized that this occurred because the lowest income youth focused on future positive events to “escape” from their current negative life situations. Future research is needed to further understand how low-income youth prepare for their future and how their current family financial situation influences their thoughts and preparatory behavior.

An alternate explanation is that youth whose parents had higher earnings were also working more hours, which decreased the time available for them to engage in career preparatory activities with their children. Because New Hope did not provide job training, increases in parental earnings were due partly to increases in the numbers of hours worked. The increased earnings may have provided other benefits to families, but they also may have decreased the free time parents had to help their children explore future career paths. It is also important to note that, because New Hope actually exerted a *positive* direct effect on youths’ career preparation, there are clearly other untested mediators of the effect.

The effect sizes of the mediated paths, which indicate how much of the program impact on the outcome variable is explained through the mediating variables, were all relatively small (.13-.20) and some were only significant at the $p < .10$ level. It is important to note that the mediators were assessed two years after program benefits ended and the size of New Hope’s effects on these variables already had decreased from effects measured while program benefits were still available. If the program lasted more than three years, impacts on both the mediating variables and youths’ employment and future orientation would likely be larger. Although only implemented for three years (due to limited financial resources), the program is designed to operate as a continuous economic support policy that would be available to low-income families at any time throughout children’s developmental course.

Mediators of New Hope’s Effects on Boys

Among boys, mediating effects were found only for the impact of New Hope on pessimism about future employment. Because the measure of pessimism asked youth to think about their own employment and financial futures, it is not surprising that higher levels of parent-reported reading performance in school predicted lower levels of pessimism about the future. Youth may be using their academic progress as an index for the likelihood of procuring and maintaining employment in the future. Prior work consistently has shown that youths’ educational expectations are grounded in their academic achievement (Ensminger and Slusarcick 1992; Mello 2008). Similar processes may operate for this broader set of future expectations as well.

Boys’ educational expectations also mediated New Hope’s effect on pessimism about future employment. Because New Hope boys were more certain that they would attend and graduate from college than control group boys, it is not surprising that they were less pessimistic about their job prospects as adults. This continuity of high expectations corroborates empirical work that has shown that low-income boys ground their occupational expectations in their educational expectations. Cook and colleagues (1996) found evidence that boys who possessed stronger educational expectations also expected to obtain higher prestige jobs in adulthood.

Although no mechanisms that contribute to gender differences in the impact of New Hope on youths’ academic and social skills have been quantitatively identified, ethnographic data on a subset of New Hope and control group families revealed that differential family

expenditures on boys and girls may explain part of the observed differences. Parents repeatedly discussed awareness of the vulnerability of boys growing up in urban environments, where street-influences, such as gangs, are present and where high school dropout rates are high (Duncan et al. 2007). Parents' concerns about their sons were not unfounded. Among control group youth, girls were doing much better than boys academically and behaviorally (Duncan et al. 2007). Because of heightened concerns about boys' vulnerabilities, parents may have disproportionately directed the benefits provided by New Hope towards their sons, to help ensure positive development. For example, some New Hope families likely used the additional income to provide tutoring for their sons. These differential family investment patterns may partially account for the consistent patterns of positive effects of New Hope on boys and no effects on girls.

Future Directions

Safety net policies and adolescents' future orientation—New Hope is the first program to examine how an adult-directed safety net policy affects youths' attitudes and behaviors related to their future careers. In light of the effects of New Hope on these adolescent attributes, and the importance of a healthy future orientation to later success (Nurmi 1999), future research on safety net programs would increase their information value by incorporating indicators of youths' future orientation into their research protocol. Because New Hope is a costly (approximately \$6000 per family per year in 2005 dollars) program and because the structure of Temporary Aid for Needy Families (TANF) is unlikely to change in coming years, it is important to consider other policies that may confer some of the same benefits that New Hope provided. For example, Earned Income Tax Credits provide low-income families with additional resources that can promote child well-being. Recent tax breaks established to help families save for children's college are another policy that is likely to produce changes in future orientation. Overall, examinations of policy effects on children and adolescents should go beyond the typical examinations of academic achievement, social emotional development and problem behavior to incorporate measures of youths' thoughts, behaviors, and feelings about their future, as this is another critical domain of development for low income youth.

Understanding paths between literacy skills and future orientation—A second important area of future research concerns predictive associations between early skills and later future orientation. Although this study and others have documented the linkages of literacy (and other academic) skills with future orientation (Ensminger and Slusarcick 1992), little is known about *why* these associations exist. Future research needs to examine potential mechanisms that link these constructs across development, and especially to illuminate the association between literacy skills and future orientation. For example, although it is possible that youths' literacy skills have a direct impact on their future orientation, it is also plausible that there are contextual factors that (a) produced this continuity, because youths' skills have evoked positive features within contexts (e.g., increased interest and investments from adults), or (b) underlie both literacy skills and future orientation. In the latter possibility, the association between literacy skills and future orientation is the result of unmeasured third variables. For example, multiple barriers to success, such as few family resources, lack of social support, and residence in a poor neighborhood may simultaneously affect youths' chances for academic success and perceptions of their economic and employment futures (Hill et al. 2003). More research on the mechanisms, particularly contextual mechanisms that underlie this relationship, will provide new, more fine-tuned targets for policies and programs seeking to promote positive future orientation among economically disadvantaged youth.

Limitations of the Current Study

A primary limitation to the current study is the wide age range of the youth. Because the New Hope evaluation was designed to examine how the program affected children of all ages, it is challenging to identify mediating pathways that might be unique to specific developmental periods. Despite this limitation, it is important to recognize that the meaning of thoughts, attitudes, and behaviors about future employment and careers varies by youths' age. As youth enter late adolescence, their attitudes are likely more concrete and may be grounded in actual experiences looking for and engaging in employment opportunities. Following up on this idea, we analyzed the data separately for high school age youth (ages 14+) to see whether the results were stronger for this subgroup. The results from these models were quite similar to the results from the full sample models, indicating that the associations that were found held for the youth who were most likely to be actively thinking about and planning for future careers (results available from first author).

Additional limitations of the current study merit comment. The measures of future orientation had relatively low reliabilities. Future work is needed to validate measures of future orientation that are appropriate for use with samples of economically disadvantaged and ethnically diverse youth. Because New Hope operated only in one city and in the context of a strong economic climate, the generalizability of findings is limited. Future replications across different types of geographic locations and within differing macro-level economic conditions are critical to determining how New Hope would work on a larger scale (Duncan et al. 2007).

Conclusion

The work-related attitudes and the work-related preparations that economically disadvantaged youth undertake prior to completing or leaving high school are particularly important, in part because of their lower likelihood of transitioning to postsecondary education as compared to more affluent youth (Aud et al. 2010). This longitudinal study provided evidence that the effects of a parent-directed, work-based, antipoverty program on youths' career-related future orientation were mediated partially by increasing perceived reading performance and educational expectations during middle childhood and early adolescence. These findings contribute to our understanding of how career-related future orientation develops among low income youth and identify children's earlier educational achievement and expectations as potential developmental pathways to a healthy future orientation.

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Biography

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Figure 1.
Hypothesized Mediation Model of New Hope's Effects on Adolescent Future Orientation

Table 1

Descriptive Characteristics of Parents & Youth in New Hope Child & Family Study Sample (n=1105)

Variable	
<i>Baseline Characteristics</i>	
Parent gender	
Female	92%
Male	8%
Parent ethnicity	
African American	55%
Latino	30%
White	15%
Parent age	
<25	30%
25-34	53%
35 and up	18%
Child < 2 years old	49%
Three or more children	54%
Parent employment	
Ever worked full time	84%
Currently employed	39%
Earnings in past 12 months	
\$0	37%
\$1-\$4,999	39%
\$5,000 and higher	23%
Currently receive AFDC	83%
Neighborhood	
Northside	48%
Southside	52%
High school diploma/GED	60%
Access to car	44%
AFDC as child	49%
Child Age (8 yr. follow-up)	14.23(3.01)
Child Gender	
Boys	52%
Girls	48%

Note: AFDC=Aid to Families with Dependent Children; GED=General Equivalency Degree

Table 2

Mediation Effects of New Hope Treatment on Future Orientation, Full Sample

	Cynicism about Work		Career Preparation	
	M→Y (b) B(S.E.)	Mediated Effect (ab) B(S.E.)	M→Y (b) B(S.E.)	Mediated Effect (ab) B(S.E.)
<i>Employment & Earnings</i>				
Average Quarters Employed	-.01(.02)	.00(.01)	-.06(.03) [*]	-.01(.01)
Average Yearly Earnings	.00(.00)	.00(.00)	-.01(.01) ^{**}	.02(.01) [*]
<i>Out-of-home Activities</i>				
Before/After School Programs	-.03(.01) [*]	.00(.00)	.02(.02)	.00(.00)
<i>Academic Skills</i>				
WJ Broad Reading Scores	-.01(.00) ^{***}	-.01(.01)	.00(.00)	.00(.01)
Reading Performance	-.04(.02) ^{**}	-.01(.01) [*]	.03(.03)	.01(.01)
Educational Expectations	-.05(.03) [*]	-.01(.01)	.06(.04) [*]	.01(.01)

Note:

Note: All coefficients are unstandardized.

Note: WJ = Woodcock-Johnson

^{*}
 $p < .10$ ^{**}
 $p < .05$ ^{***}
 $p < .01$

Table 3

Mediation Effects of New Hope Treatment on Future Orientation, Boys Only

	Cynicism about Work		Pessimism about Employment		Career Preparation	
	M→Y (b) B(S.E.)	Mediated Effect (ab) B(S.E.)	M→Y (b) B(S.E.)	Mediated Effect (ab) B(S.E.)	M→Y (b) B(S.E.)	Mediated Effect (ab) B(S.E.)
<i>Employment & Earnings</i>						
Average Quarters Employed	-.03(.04)	-.01(.01)	-.08(.06)	-.02(.02)	-.06(.05)	-.01(.01)
Average Yearly Earnings	.00(.01)	-.01(.01)	.00(.01)	.00(.01)	-.01(.10)	-.01(.01)
<i>Out-of-home Activities</i>						
Before/After School Programs	-.03(.02)	.00(.01)	*** -.09(.03)	-.01(.02)	.02(.03)	.00(.01)
<i>Academic Skills</i>						
WJ Broad Reading Scores	*** -.01(.00)	-.02(.01)	** -.01(.00)	-.02(.02)	.00(.00)	.00(.01)
Reading Performance	** -.05(.03)	-.01(.01)	*** -.15(.04)	-.04(.02)*	.00(.04)	.00(.01)
Educational Expectations	* -.08(.04)	-.02(.01)	*** -.20(.08)	-.05(.03)*	.08(.05)*	.02(.02)

Note:

Note: All coefficients are unstandardized.

Note: WJ = Woodcock-Johnson

*
p<.10

**
p<.05

p<.01