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## The Educational and Career Adjustment of Mexican-Origin Youth in the Context of the 2007/2008 Economic Recession

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### Abstract

Youth's transition out of high school is a complex process that is informed by youth's awareness of available opportunities and resources, social norms, and social belonging and responsibility. Using a quasi-experimental design, this study examined the educational and career adjustment (i.e., college attendance status, post-secondary education type, work status, and work quality) of Mexican-origin siblings who made the transition out of high school before (i.e., 2005 or earlier) or during the economic recession (i.e., 2007 or after). Participants were 246 Mexican-origin mothers, fathers, older siblings (50% female; 38% U.S. born), and younger siblings (51% female; 47% U.S. born). Our results showed that, even though siblings grew up in similar family environments, 2007 graduates (younger siblings) were less likely to attend college, be enrolled in a university compared to a community college, and reported working in lower quality jobs as compared to 2005 graduates (older siblings). Results also showed that high economic hardship reduced the adverse association between perceived discrimination and youth educational and career adjustment, and reduced the protective effect of family obligation values on youth adjustment.

### Keywords

Career; College; Economic Downturn; Family; Life Course Perspective; Mexican-origin

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Youth's transition out of high school and into college and career settings can be a complex process informed by youth's awareness of available opportunities and resources, perceptions of social norms, and sense of social belonging (Ajzen, 1991; Sandler, 2000). Those who

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study a life course perspective (Elder, 1998; Elder, Johnson, & Crosnoe, 2003) suggest that socio-historical contexts inform youth's and families' sense of available resources and possible control to accomplish socially prescribed role transitions (e.g., entering into college, entering into the workforce). Further, a cultural ecological perspective (García Coll et al., 1996) suggests that social stratification mechanisms (e.g. discrimination), culturally specific values, and reduced accumulation of wealth and higher rates of economic hardship faced by minority youth make the psychological processes related to a sense of belonging, social norms, and control more salient in this process. For example, social stratification mechanisms (e.g., discrimination and segregation) make youth consistently assess their sense of belonging. In addition, cultural values that align with and/or contradict mainstream values may force youth to constantly evaluate which norms inform their behavior. Furthermore, a reduced accumulation of wealth can make ethnic-racial minority families more vulnerable to social political contexts that impact the availability of social resources. Together, the life course and cultural ecological perspectives highlight the importance of accounting for the social context in which youth reside along with the psychological processes that inform how youth react to such contexts when transitioning out of high school and into adult roles.

With these theoretical perspectives in mind, the current study explored youth's college and career transitions after high school during the height of the 2005/06 economic bubble (i.e., a time of high access to social resources) and the beginning of the 2007/08 economic recession (i.e., a time of reduced resources; Taylor et al., 2010) to understand how the socio-historical context informed youth development. More specifically, the first goal of this study was to compare the educational and career adjustment (i.e., college attendance status, post-secondary education type, work status, and work quality) of sibling dyads who made the transition out of high school before and during the economic recession. Further, the second goal of this study was to identify how social stratification factors (i.e., economic hardship, discrimination) intersect to influence youth's outcomes, while acknowledging the important role of culture (i.e., family obligation values). We test these theoretical ideas through data collected from Mexican-origin families, as this group was particularly vulnerable to the impacts of the economic recession. Specifically, Mexican-origin youth have historically low college attendance rates (Fry & Taylor, 2013), make up a large portion of the low income workforce that was hit hardest by job and wage losses during the 2007/08 economic recession (Lopez, Livingston, Kochhar, 2009), and were targeted by anti-immigration sentiments and legislation immediately following the onset of the recession (Menjívar & Enchautegui, 2015). For these reasons, the experiences of Mexican-origin families help illustrate how the socio-historical context, discrimination, economic hardship, and culture intersect to inform youth adjustment.

## Youth's Post-High School Transition and Socio-Historical Context

A life course perspective (Elder, 1998; Elder et al., 2003) suggests that socio-historical contexts inform norms related to the timing and order of optimal family and adult role transitions. Three elements of the life course perspective informed this study. First, social norms inform the appropriate timing and order of adult transitions, and thus, the cascading availability of resources and opportunities for individuals to transition from one role to

another (Elder et al., 2003). Second, normative role transitions in *early* adulthood have a larger impact on one's life-course trajectory as compared to normative role transitions occurring *later* in adulthood (Dietrich, Parker, & Salmelo-Aro, 2012). Third, socio-historical contexts influence the availability of socioeconomic resources and opportunities that can support or hinder successful life-course transitions (Elder, 1998). These three points inform our interest in understanding how variation in socio-political contexts (i.e., 2005/06 economic bubble vs 2007/08 economic recession; life course perspective, Tenet 3) during the transition out of high school informed youth's educational and work outcomes. We focus on the transition out of high school because it is considered an important social marker of the transition into adulthood in the U.S. (Crockett & Beal, 2012; life course perspective, Tenet 1), which holds significant implications for youth's lifetime earning potential and career pathways (Heinz, 2003; life course perspective, Tenet 2).

In late adolescence, youth in the U.S. face the clear age-graded challenge of transitioning out of high school and into early adult roles (Crockett & Beal, 2012). During this transitional period, youth can enter the workforce immediately, but many choose to enter into college (i.e., a term used in this paper to refer to university, community college, and vocational college) as a mean to prepare for higher skilled work. Four-year universities are bachelor's degree granting college institutions, which are regarded as the primary system to help youth achieve higher income and higher skilled jobs. In fact, youth who complete a bachelor's degree report having higher annual incomes (\$45,000) and are more likely to hold career-directed jobs (86%), compared to youth who hold a two-year degree (\$30,000 & 73%, respectively) or those who have not completed any higher education (\$28,000 & 57%, respectively; Fry, 2013). Despite the economic benefits of completing a college degree, especially a bachelor's degree, the costs of attending college may prevent some youth from entering this education system. Potential costs may include the cost of tuition – a requirement for most U.S. college institutions - the time spent training or attending classes, the cost of school/training tools, the cost of not entering the workforce fulltime, and/or the cost of taking a low-skilled job as an economic place holder until one's education/training is completed (Dietrich et al., 2012). If family and social resources are not available to offset such costs, then youth must engage in a cost-benefit analysis of their current and future needs that may lead youth to abandon, change, or postpone education and career goals (Freund & Baltes, 2002).

Two potential outcomes may emerge in such situations. First, youth may postpone their university enrollment by entering the college system through alternative institutions (i.e., two-year community college, vocational college) or postponing college enrollment altogether. Youth who lack the resources to pay for university or to forego a full-time job, often opt to enroll in a community college, an education system that awards two-year college degrees and/or prepares students to transfer into a university system, or they may enroll in vocational college, an education system which offers job-related skills to prepare students to perform a specific job. As noted above, there are significant economic implications for completing a two-year degree and not pursuing further educations (Fry, 2013). However, some youth enter into the community college system as a means to transfer into a four-year university at a later date. Although this practice is commendable, youth who enter community college systems often face substantial transfer hurdles (e.g., misinformation

regarding transfer requirements and deadlines, increased tuition costs) that lead many youth to drop out prior to transferring to a university (Niu & Tienda, 2013; Zarate & Burciaga, 2010), and thus have a lower likelihood of completing a bachelor's degree. This outcome of entering into a community or vocational college is of particular concern for Mexican-origin youth, as they have disproportionately enrolled in community and vocational colleges (Fry & Taylor, 2013). Postponing enrollment in any college has even larger adverse effects. Youth who wait just one year after high school graduation to enroll in college are 30% less likely to complete their intended degree, and youth who postpone enrollment by two years are 57% less likely to complete their degree (Niu & Tienda, 2013). Youth who delay college enrollment must enter the college system through a community college before transferring into a university; therefore, they must face the same transfer hurdles mentioned above (Bozik & DeLuca, 2005).

Second, youth may enter the workforce early without the necessary training to enter career-directed jobs, and instead enter into entry-level, temporary, or part-time jobs (Heinz, 2003; MacDonald, 2009). Youth who enter non-career directed jobs (i.e., jobs with low possibilities of promotion, low pay, and minimal benefits) report more job instability, less work engagement and commitment, and reductions in social resources to advance in employment (Heinz, 2003; Rosenbaum, 2001). That is, although early employment may help youth address their immediate economic needs, the long-term implications of foregoing college or career training may influence their lifetime earning potential and career pathways. The demographic trends noted above serve to support the two primary tenets of the life course perspective (Elder, 1998; Elder et al., 2003) – the importance of key social transitions and the implications of early adulthood transitions for later adulthood - and help to showcase why it is important to understand the factors that influence youth's post-high school educational and career trajectories.

We focus on youth who transitioned out of high school before and after the beginning of the 2007/08 economic recession to examine implications of the life course perspective's (Elder, 1998; Elder et al., 2003) third tenet – that the socio-historical context influences the availability and access to resources and, thus, youth development. We focus on this socio-historical period because the 2005/06 economic bubble and 2007/08 economic recession created a context where youth, across multiple social strata, experienced sharp contrasts in the availability of resources to support their post-high school transitions (DeNavas-Walt, Proctor, & Smith, 2013; Kena et al., 2015). The housing bubble created a large number of labor demands and real estate investments that promoted job and economic growth (Byun, 2010). In 2005/06, the average family income in the U.S. was \$75,810, the highest in U.S. history, but by 2007/08 the average family income declined by 4% to \$72,968, an average family income akin to families living in 1998 (DeNavas-Walt et al., 2013). The number of families living in poverty rose from 10.6% in 2005/06 (the fourth lowest poverty rate in U.S. history since 1975) to 11.5% in 2007/08 (DeNavas-Walt et al., 2013). In (state name omitted), the state in which the current study was conducted, the poverty rate rose from 15.1% in 2005/06 to 16.3% in 2007/08 (citation omitted). This demonstrates the larger impact of the economic recession on (state name omitted) families, compared to the national average (U.S. Census, 2005-2008). Furthermore, college attendance costs (i.e., tuition, room

and board, books) increased 8%, from \$17,279 in 2005/06 to \$18,709 in 2007/08 nationally (Kena et al., 2012).

Not only was 2007/08 marked by economic scarcity but the economic recession coincided with a sociocultural period of growing anti-immigrant and anti-Latino sentiments linked to frustrations with economic resources and stagnant movement in immigration reform policies (Menjívar & Enchautegui, 2015). These frustrations culminated in the passing of several anti-immigrant, anti-Latino laws (Arrocha, 2011). These growing tensions were quite salient in southern and southwestern U.S. states during the same period as the economic recession.

The U.S. economic and social trends noted above suggest that Latino youth transitioning out of high school during the 2005/06 economic and housing bubble, an economically abundant time, may have experienced minimal barriers toward their educational aspirations, allowing them to pursue a college education immediately after high school, attend a university instead of a community or vocational college, and forego early entrance into non-career directed jobs. In contrast, 2007/08 Latino youth, especially those living in the south and southwestern U.S. regions who transitioned out of high school in a context marked by financial hardships and perceptions of systemic discrimination, may have felt more constraints in pursuing their academic goals. High financial hardship and perceived discrimination, individually and cumulatively, may have taxed 2007/08 Latino high school graduates' psychological resources and placed them at higher risk, than earlier graduates, for college deferment, increased enrollment into community and vocational college, and early employment entrance. Informed by the above mentioned research and a life course perspective, we predict the following hypothesis:

**Hypothesis 1.** Youth who graduated from high school prior to 2005/06 - during the economic bubble - will be more likely to be enrolled in college, attend a university, and not be employed or employed in higher quality jobs (e.g., traditional daytime shifts, high prestige profession, wages above the poverty line) compared to those who graduated after 2007/08 - during the economic recession.

## **Intersecting Risks: Family Economic Hardship and Perceived Discrimination**

A cultural-ecological perspective (García Coll et al., 1996) further guides our study as it suggests that macro-level socio-historical contexts influence low income and ethnic/racial minority youth through the intersection of socioeconomic status, race/ethnicity, and culture that shape family and individual actions and experiences. That is, one's social position impacts the manner in which all other social and developmental processes interact to create promotive or prohibiting environments for youth (García Coll et al., 1996). Most salient to this study are the implications of socioeconomic status, represented in this study by family economic hardship, on youth's adult transitions. Previous research has noted that Latino youth whose families are experiencing high economic hardship are more likely to enter the workforce early to afford school expenses and support the family financially (Bozick, 2007; Sánchez, Esparza, Colón, & Davis, 2010). These youth also engage in cost-saving strategies (i.e., attending less expensive schools, living at home) to buffer the economic impacts of

college attendance on family finances (Bozick, 2007). Further, ethnic minority parents experiencing high economic hardship are less able to support youth's higher education pursuits (Crosnoe, Mistry, & Elder, 2002). Thus, economic hardship creates a salient context where the availability of resources, and the psychological pressures of maintaining financial self-sufficiency, impact family dynamics and individual experiences (Conger, Conger, Mathews, & Elder, 1999).

**Hypothesis 2a** Higher family economic hardship is negatively related to enrollment in higher education and positively related to earlier entrance into the workforce among young adults.

A second possible social position factor that may influence youth's development is race/ethnicity (García Coll et al., 1996). The anti-immigrant and anti-Latino sentiments present during the 2007/08 economic recession would have increased the salience of youth's ethnicity through their perceived experiences of discrimination. Although researchers have noted the potential influence of ethnic-racial discrimination on school adjustment, only few have quantitatively explored this association in relation to college adjustment. This body of research has noted that high perceptions of discrimination are negatively associated with youth's attitudes about and sense of belonging in higher education across U.S. ethnic groups, including Latinos (Nora & Cabrera, 1996), and to academic motivation, which informs Latino youth's decision to pursue secondary degrees (Perreira, Fuligni, & Polochnick, 2010). Qualitative research has also suggested that fear of discrimination is an influencing factor in Mexican-origin youth's decisions to self-segregate by not enrolling into a university or entering the education pipeline through a community college (Villalpando, 2003). A similar argument has been posed linking experiences of discrimination and individuals' experiences at work, suggesting that actual discriminatory practices *and* the fear of discrimination can lead to a segmentation of Latino and immigrant individuals in lower quality jobs (i.e., low prestige, temporary, and manual jobs; Catanzarite, 2000), partially as a self-preservation mechanism.

**Hypothesis 2b** Higher perceptions of discrimination are negatively associated with the likelihood of college enrollment and attendance at a four-year university, and with work quality.

Researchers have not examined the intersecting influence of economic hardship and perceived discrimination; however, given our cultural-ecological perspective and the unique context of the 2007/08 economic recession, it is important to explore the individual and interactive effects of economic hardship and perceived discrimination. Despite the paucity of research in this area, García Coll and colleagues' (1996) cultural-ecological model purports that economic hardship and experiences of discrimination often intersect to create an increasingly prohibitive environment for youth. Thus, it is important to understand how these two contexts interact with one another. Further, Elder and colleagues' (2003) life course perspective suggests that economic hardship creates a context where youth are given access to, or barred from, resources that may help youth adjust to their environment. Thus, a family's economic situation may shape how youth react to the experiences of discrimination. With these theoretical premises in mind, we offer the next hypothesis:

**Hypothesis 2c** The negative relation between experiences of discrimination and engagement in higher education is moderated by economic hardship. The relationship is stronger under the condition of high economic hardship.

## Cultural Resources: Family Obligation Values

The cultural-ecological perspective (García Coll et al., 1996) also alerts us to the importance of accounting for cultural norms and values that support the positive adjustment of ethnic minority youth. We focus our attention on familism values, an important set of values within Mexican culture (Knight et al., 2010). In particular, our study focuses on a subcomponent of familism: family obligation values. Family obligation values represent youth's sense of responsibility to support their family's goals, and the psychological process of making family needs a higher priority, as compared to individual needs, in decision-making (Knight et al., 2010). Within the context of early adulthood, family obligation values may be represented in youth's sense of responsibility to ensure the family achieves financial stability or mobility – ultimately informing education and career decisions (Sy, 2006).

There is variation in how youth's family obligation values inform education and career decisions. In a qualitative study of Latino young adults (Sy, 2006), youth noted that they chose to enter the workforce and forego education to help the family economically, whereas others chose to enter into college to get better jobs so that they could help the family in the future. A second qualitative study of Latino young adults suggests that family economic hardship informs youth's sense of responsibility towards their family. Sánchez, Esparza, Colón, and Davis (2010) noted that Latino youth who resided in households facing high economic hardship stated that their sense of family obligation increased their need to juggle family responsibilities, especially the role of financial contributor to the family. Youth residing in economically stable homes did not mention similar pressures. Taken together, these studies suggest that economic hardship can moderate the association between youth's family obligation values and their educational and career outcomes. When families experience high economic hardship, youth's sense of family obligation may increase the pressure to postpone or reduce their educational involvement, and increase their workforce involvement, as a means to help the family regain financial stability. On the other hand, when families experience low economic hardship, youth's sense of family obligation may increase pressure to pursue higher education and postpone their workforce involvement, to support the family's long-term goals of achieving financial mobility. Based on García Coll and colleagues' (1996) conceptualization of the role of cultural resources, and the research suggesting family obligation values' impact on development is context specific, we offer the following hypotheses:

**Hypothesis 3a** Higher endorsement of family obligation is negatively associated with engagement in more prestigious educational (i.e., four-year universities) and higher quality occupational settings.

**Hypothesis 3b** Economic hardship moderates the relation between family obligation values and educational and career outcomes. When economic hardship is high, family obligation values are associated with a reduced likelihood of enrolling in college and of engaging in

more prestigious educational settings (i.e., university vs. community college), and with a greater likelihood of entering the workforce. This association is inverse when economic hardship is low.

## Method

### Participants

Data came from a larger longitudinal study of 246 Mexican-origin families (i.e., mothers, fathers) raising adolescent/young adult offspring (i.e., a target 7<sup>th</sup> grader and an older sibling; *Author citation*). The purpose of the larger study was to assess how families help their target 7<sup>th</sup> grader transition into new social roles/contexts in early adolescence (Time 1; T1), late adolescence (Time 2; T2), and young adulthood (Time 3; T3). The current study included data from T2 (older siblings) and T3 (target 7<sup>th</sup> graders). T2 data were collected in 2007/08, two years after the older siblings had graduated from high school (in 2005 or before). T3 data were collected in 2009/10, two years after target 7<sup>th</sup> graders (henceforth referenced as the younger sibling) graduated from high school (in 2007/08). Thus, the T2 and T3 data allowed us to use a quasi-experimental design to examine siblings who transitioned into adulthood (two years after high school graduation) during two distinct socio-historical contexts. We describe the original T1 sample and T2 and T3 data collection and sample retention efforts.

For the larger study, Mexican-origin families were recruited through schools in a southwestern metropolitan area. To be eligible for the study, families had to have four family members (i.e., mother, father, younger sibling in the 7<sup>th</sup> grade, older sibling under the age of 21) living in the home at T1 who agreed to participate. Mothers had to self-identify as Mexican or Mexican American and be the biological mother of both participating siblings in the family. Fathers had to be the biological or long-term adoptive father (a minimum of ten years) who reported working at least 20 hours/week. Although not a criterion, 93% of fathers also were of Mexican descent.

At T1 (Years: 2002/2003), participating families represented a range of socioeconomic levels. The percentage that met federal poverty guidelines was 18.3%, similar to the 18.6% of two-parent Mexican-origin families living in poverty in the county from which the sample was drawn (U.S. Census Bureau, 2000). Annual median family income was \$40,000. Parents had completed an average of 10 years of education ( $M = 10.34$ ;  $SD = 3.74$  for mothers;  $M = 9.88$ ;  $SD = 4.37$  for fathers). Seventy percent of parents were born outside the U.S.; this subset of parents had lived in the U.S. an average of 12.37 ( $SD = 8.86$ ) and 15.17 ( $SD = 8.77$ ) years for mothers and fathers, respectively. Almost 70% of the interviews with parents were conducted in Spanish. Thirty-eight percent of younger siblings and 47% of older siblings were born outside the U.S., and were primarily interviewed in English (83%). Younger siblings (51% female) were 12.77 ( $SD = .58$ ) years old and older siblings (50% female) were 15.70 ( $SD = 1.60$ ) years of age at T1.

T2 (Years 2007/2008) data were collected about five years after T1, older siblings were 20.65 years of age ( $SD = 1.57$ ). T3 (Years 2009/2010) interviews were conducted two years after T2, when younger siblings averaged 19.60 years of age ( $SD = .66$ ). Retention rates by

family were 75% ( $n = 185$ ) and 70% ( $n = 173$ ) for T2 and T3, respectively. Those who did not participate: could not be located ( $n = 44$  at T2;  $n = 45$  at T3), had moved to Mexico ( $n = 2$  at T2;  $n = 4$  at T3), could not presently participate or were difficult to contact ( $n = 9$  at T2, 0 at T3), refused to participate ( $n = 6$  at T2;  $n = 12$  at T3), had a combination of reasons for nonparticipation (e.g., some family members refused and others could not be located), or reported special circumstances, such as a very ill family member ( $n = 0$  at T2;  $n = 12$  at T3).

At T2, participating families differed from non-participating families on T1 maternal education ( $M = 10.62$ ,  $SD = 3.80$  versus  $M = 9.48$ ,  $SD = 3.45$ ,  $F(1, 245) = 4.37$ ,  $p < .05$ ), and family income ( $M = \$59,517$ ,  $SD = \$48,395$  versus  $M = \$37,632$ ,  $SD = \$28,606$ ,  $F(1, 245) = 11.05$ ,  $p < .001$ ). At T3, participating families differed from non-participating families on T1 maternal education ( $M = 10.75$ ,  $SD = 3.75$  versus  $M = 9.35$ ,  $SD = 3.53$ ,  $F(1, 245) = 7.42$ ,  $p < .01$ ), paternal education ( $M = 10.46$ ,  $SD = 4.37$  versus  $M = 8.49$ ,  $SD = 4.08$ ,  $F(1, 244) = 10.66$ ,  $p < .001$ ), family income ( $M = \$59,136$ ,  $SD = \$46,674$  versus  $M = \$41,635$ ,  $SD = \$39,095$ ,  $F(1, 245) = 8.41$ ,  $p < .01$ ). Thus, T1 family socioeconomic status (SES) was included as an auxiliary variable in all analyses to improve estimation under conditions of missing data.

## Procedures

Families participated in structured in-home interviews lasting two to three hours at each time point. Structured interviews are a data collection technique where questions and response options are read aloud to participants in the exact same manner and order (Fowler, 2004). This enables researchers to collect survey data while accounting for variations in participant literacy. Bilingual interviewers conducted the interviews separately with each family member using laptop computers, which aided in ensuring survey questions followed the exact same order while also automatizing any potential skip-patterns required in the data collection process (e.g., questions regarding work conditions are skipped for unemployed participants). Families received a \$100 and \$125 honorarium for participation at T1 and T2, respectively. At T3, each family member received a \$75 honorarium for his or her participation. The Institutional Review Board approved all procedures.

## Measures

All measures were forward translated into Spanish and back translated into English by two separate individuals. Final translations were reviewed by a third native Mexican-origin translator and discrepancies were resolved by the research team (Knight, Roosa, & Umaña-Taylor, 2009). Because our research focus is on outcomes for youth at age 20 (two years post-high school graduation), measures collected at T2 were used for older siblings (henceforth called: 2005 graduates/older siblings) and measures collected at T3 were used for younger siblings (henceforth called: 2007 graduates/younger siblings).

**Educational and employment adjustment (T2 for 2005 graduates/older siblings; T3 for 2007 graduates/younger siblings)**—Youth reported on the highest level of education completed by responding to the following item: “What was the highest grade you completed?” using numeric values (i.e., 11 or less = *actual grade level completed*, 11.5 = *GED*, 12 = *High School Graduate*, 14 = *Vocational or Associates Degree*, 16 =

*College Degree*, 18 = *Master's Degree*, 21 = *Advanced Graduate Degree*). If youth reported at least 13 years of education two years after their high school graduation (T2 for older siblings, T3 for younger siblings) then they were identified as *attending college* (1) or *not* (0). Youth who attended college were then asked to report the *type of school* they attended (0 = *community or vocational college*, 1 = *four-year university*).

To assess youth's employment outcomes, youth reported on their employment status and work quality. For employment status, youth simply noted whether they *were employed* (1) or *not* (0). *Work quality* was assessed by creating a composite score of structural (i.e., work shifts, wages, job security) and relational (i.e., work prestige) work characteristics noted as important to understanding the nature of jobs and work in the U.S. (Peterson et al., 2001). The composite score included data regarding youth's work shift (0 = *night shift, variable shifts, or traveling shifts*, 1 = *day or afternoon shift*), ability to make a living wage based on 2010 federal poverty guidelines for a one-person household (0 = *less than \$11,770*, 1 = *equal to \$11,770 or above*; U.S. Department of Health and Human Services, 2010), perceived job security ("How safe do you feel you are from layoffs, downsizing, cutbacks, and so on at work?"; 1 = *very insecure* to 5 = *very secure*), and job prestige (Nakao & Treas, 1994). Job prestige was assessed by asking participants "What is your job title?" responses were coded using the NORC coding scheme (Nakao & Treas, 1994), a nationally validated coding scheme of job prestige (respect). Low scores (0-30) represent low-skill manual labor and customer service jobs, and high scores (60-100) represent entrepreneurial, executive, or professional jobs. Because of the variability in response scales, all measures (i.e., work shift, living wage, work security, job prestige) were standardized using z-scores prior to creating an average score of work quality where a higher score indicated a higher quality job. In validation of this measure of work quality, we examined the *work quality* of youth who scored at the mean ( $M=.32$ ;  $SD=.48$ ) and one standard deviation above and below the mean. Of those who scored at the mean, 40% were earning a living wage, 84% held a daytime work schedule, and held jobs marked by high security ( $M=4.33$  on a 5-point scale) and moderate prestige ( $M=35.36$ ). Of those who scored one standard deviation below the mean of work quality (i.e.,  $-.16$  or below), only 21% were earning a living wage, 61% held a daytime work schedule, and held jobs marked by low security ( $M=2.79$ ), and a prestige score that fell within the range of low-skilled labor ( $M=27.51$ ). Lastly, youth who scored one standard deviation above the mean of work quality (i.e.,  $.80$  or above) were likely to be earning a living wage (92%), working a daytime schedule (97%), reported high job security ( $M=4.85$ ), and worked in jobs that held moderate to high prestige ( $M=47.88$ ). Youth who were not employed did not receive a work quality score.

**Economic hardship (T2 for 2005 graduates/older siblings; T3 for 2007 graduates/younger siblings)**—Mothers and fathers reported on the family's economic hardship (Barrera, Caples, & Tein, 2001) at T2 (for older siblings) and T3 (for younger siblings). Parents reported the level of difficulty they have had paying bills (e.g., "Think back over the past 3 months and tell us how much difficulty you had with paying your bills. Would you say you had"; 1 = *great deal of difficulty* to 4 = *not at all difficult*; two items); how much they agreed with their ability to pay for the basic necessities (e.g., "My family had enough money to afford the kind of home we should have"; 1 = *strongly agree* to 5 =

*strongly disagree*; four items); whether they had to make cutbacks in their spending (e.g., “Moved to another house or apartment to save some money”; 1 = *no*, 2 = *yes*; nine items); and how often they worried about their future finances (e.g., “In the next three months, how often do you expect that you will have to do without the basic things that your family needs?”; 1 = *almost never* to 5 = *almost always*; two items). Based on Caples and colleagues' (2001) findings suggesting a second order factor structure and recommendation to combine subscales to create a “global” measure of economic hardship, subscales were standardized and averaged to create a composite of economic hardship for each parent. Higher scores indicated more hardship. Reliability estimates for each subscale were above .75 for mothers and fathers at T2 and T3. Parents' reports were highly correlated (T2  $r = .57$ ; T3  $r = .60$ ); therefore, we averaged parents' scores to create a composite scale of *family economic hardship*.

**Perceived discrimination (T2 for 2005 graduates/older siblings; T3 for 2007 graduates/younger siblings)**—A revised version (Umaña-Taylor & Updegraff, 2007) of the Perceived Discrimination Scale (Whitbeck, Hoyt, McMorris, Chen, & Stubben, 2001) was used to assess the degree to which youth perceived to have experienced ethnic-racial discrimination over the last year. The 10-item revised version used all original items, but made them relevant to Hispanic/Latino youth; the items captured experiences of general (e.g., “How often have others ignored you or excluded you from some activities because you are Hispanic/Latino?”), authority-driven (e.g., “How often has someone suspected you of doing something wrong because you are Hispanic/Latino?”), and school-driven (e.g., “How often have you encountered teachers/professors who are surprised that you as a Hispanic/Latino person did something really well?”) discrimination using a 4-point Likert scale (1 = *almost never* to 4 = *very often*). There was good reliability for 2005 graduates/older siblings ( $a = .90$ ) and 2007 graduates/younger siblings ( $a = .83$ ).

**Youth's family obligation values (T2 for 2005 graduates/older siblings; T3 for 2007 graduates/younger siblings)**—At T2 (2005 graduates/older siblings) or T3 (2007 graduates/younger siblings) youth also reported on their values regarding family obligations using a subscale of the Mexican American Cultural Values Scale (MACVS; Knight et al., 2010). Youth reported how much they agreed with five items (e.g., “If a relative is having a hard time financially, you should help them out if you can”) using a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). Responses were averaged so higher scores indicated higher endorsement of family obligation values ( $a = .71$  and  $a = .60$ , for older and younger siblings, respectively).

**Covariates:** Based on the literature, we identified several potentially relevant covariates that should be accounted for in the analyses: youth' gender (Rowan-Kenyon, 2007), immigrant status (Sánchez et al., 2010; Sy, 2006), birth order (Black, Devereux, & Salvanes, 2005; Booth & Kee, 2010), and parents' educational aspirations for their children (Behnke, Piercy, & Diversi, 2004; Kao & Tienda, 1998). Youth's *immigrant status* was coded as 0 = *U.S.-born* vs. 1 = *immigrant*, and youth's *gender* was coded as 0 = *female* and 1 = *male*. For *birth order*, 0 = first-born and 1 = second-born, and 2 = later-born (3+) sibling. *Mothers' and fathers' educational aspirations* for their children were assessed at T1. Parents reported on

“How far they would like (child name) to go in school?” for the older and younger siblings separately. Response options were identical to those for youth's highest education level describe above. *Family SES* was included as an auxiliary variable and was created by averaging three standardized variables: the log of household income (to correct for skew), mothers' and fathers' education levels. Higher scores indicated higher SES ( $\alpha = .78$ ).

## Analytic Plan

**Dataset Creation**—To address our research questions, a stacked dataset (i.e., multiple lines of data for each family was created such that older siblings' T2 data were stacked onto younger siblings' T3 data, two years after their high school graduation (e.g., 2005 or before for older siblings versus 2007/2008 for younger siblings). By stacking the dataset in this manner we were able to create a quasi-experimental design where 2005 graduates/older siblings data at age 20 (e.g., two or more years after their high school graduation in 2005 or earlier), and 2007 graduates/younger siblings' data at age 20 (e.g., two years after their high school graduation in 2007/2008) were compared to one another. To ensure our older and younger sibling groups had graduated within the necessary time-periods, a select number of older siblings and younger siblings were excluded. Ten 2005 graduates/older siblings were excluded because their T2 age was under 18, indicating they could not have graduated before 2005, and three 2007 graduates/younger siblings were excluded because their T3 age was over 22, indicating they graduated prior to 2007/2008. Descriptive statistics for all study variables are in Table 1.

**Analysis**—Prior to the analysis of our hypothesized relationships, we screened the data for missingness, data entry errors, and inconsistent logic in participant responses. The examination of bivariate correlations (Table 1) indicates that all of our covariates relate to at least one of our dependent variables. Covariates were included as predictors of the dependent variables they were related to (Bernerth & Aguinis, 2016), based on the correlations in Table 1. Comparison between our hypothesis tests with and without the covariates yielded the same pattern of results. Thus, to maximize statistical power, we report the results without the covariates, as applicable (Table 2).

To examine hypothesized relations, probit regression analysis in *Mplus* 7.11 (Muthén & Muthén, 1998-2015) was used including the following estimation steps. First, a direct effects model was estimated to assess sibling (0 = 2007 graduates/younger siblings, 1 = 2005 graduates/older siblings; H1) differences in the dependent variables (DV) of educational and career adjustment (i.e., college attendance, university enrollment, employment status, work quality), as well as the prediction of DVs by economic and social context (family economic hardship, H2a; perceived discrimination, H2b), and youth's family obligation values (H3a) in a single model. Second, to examine the moderating effects, we estimated a model containing the interaction terms of economic hardship X perceived discrimination (to address H2c) and family obligation X economic hardship (to address H3b). All continuous independent variables (IV) were mean centered (Aiken & West, 1991). We conducted follow-up analyses for significant interactions by testing for significant simple slopes by including interaction terms +1SD above and -1SD below the sample mean on the continuous economic and social context moderators (Aiken & West, 1991; Stride, Gardner, Catley & Thomas, 2015). For

parsimony, only significant interaction terms were included in our final models. Odds ratios (OR) were computed as the exponent of the beta coefficient ( $e^x$ ) for all estimates related to our dichotomous outcomes (i.e., college attendance, university enrollment, and employment status). OR reflect change in odds of an outcome occurring given a one-point change in the independent variable. An OR equal to one indicates no change in odds, a score below one indicates reduced odds (e.g., OR = .80 means your odds are reduced by 20% or 1/5), and a score above one indicates increased odds (e.g., OR = 1.80 means your odds are increased by 80%, an OR = 2 means your odds are increased by 100% or doubled).

For all analyses, family ID was used as a cluster variable with the Complex estimator to correct the standard errors to account for the nested nature of including data from two siblings from each family (Muthén & Muthén, 1998-2015). We used Means and Variance Adjusted Weighted Least Squares (WLSMV) estimation and probit regression for variables with non-normal distributions (e.g., categorical variables) as the majority of our dependent variables were categorical (i.e., college attendance, university enrollment, employment status). We used an auxiliary variable (i.e., Family SES at T1 as a correlate of missingness; Enders, 2010) to improve estimation under conditions of missing data at T2 and T3. Thus, family SES was included only as a correlate of the analysis variables per specification recommendations (i.e., saturated correlates model; Enders, 2010). Models included correlations between the IVs and error correlations for the DVs. Model fit statistics were considered good fit if CFI > .95 and RMSEA < .06 (Hu & Bentler, 1999). The R-squared ( $R^2$ ) statistic was also used to indicate if a model accounted for a significant amount of variance in the outcomes.

## Results

Results are organized by our study hypotheses and are presented in Table 2. Compared to 2007 graduates/younger siblings, 2005 graduates/older siblings' odds of attending college were higher by 34%, and odds of enrolling in a university (vs. community college) were higher by 100%. They also reported holding higher quality jobs compared to their 2007 graduates/younger siblings. The odds of being employed approached significance.

We expected that the context of family economic hardship and more experiences of discrimination would have individual and interactive adverse effects on youth's outcomes. These two hypotheses were partially supported as a one-point increase in economic hardship was significantly associated with a 12% reduction in youth's odds of attending college. A one-point increase in perceived discrimination was associated with 43% reduced odds of attending college and lower levels of work quality. Further, two economic hardship X perceived discrimination interactions emerged to predict college attendance and work quality, but in a manner inconsistent with our hypotheses. First, when economic hardship was low, perceived discrimination was associated with a reduced odds of attending college, Logit  $b = -1.08$ ,  $SE = .43$ ,  $p = .01$  ( $e^{-1.08} = 0.34$ ), but not when economic hardship was high, Logit  $b = -.16$ ,  $SE = .23$ ,  $p = .47$  ( $e^{-0.16} = 0.85$ ; Figure 1a). Second, when economic hardship was low, perceived discrimination was associated with lower work quality,  $b = -.43$ ,  $SE = .15$ ,  $p = .00$ , but not when economic hardship was high,  $b = -.13$ ,  $SE = .09$ ,  $p = .16$  (Figure 1b).

Turning to the role of family obligation values, we expected family obligations to be positively associated with educational enrollment outcomes and negatively associated with employment (H3a), but this association would diminish, or reverse, in the context of high family economic hardship (H3b). A one-point increase in family obligations was associated with an 83% increase in the odds of being enrolled in a university. Consistent with the expectations that higher family obligation would be most impactful in the context of high economic hardship, two family obligation X economic hardship interactions were significant for college attendance and university enrollment. First, when economic hardship was high, there was significant negative association between youth's sense of family obligation and college attendance,  $b = -.48$ ,  $SE = .23$ ,  $p = .04$  ( $e^{-0.48} = 0.62$ ), but not when economic hardship was low,  $b = .37$ ,  $SE = .23$ ,  $p = .11$  ( $e^{0.37} = 1.45$ ; Figure 2a). Second, when family economic hardship was low, youth's sense of family obligation was positively associated with the odds of being enrolled in a university, as compared to a community or vocational college,  $b = 1.40$ ,  $SE = .48$ ,  $p = .00$  ( $e^{1.40} = 4.04$ ), but not when economic hardship was high,  $b = .04$ ,  $SE = .04$ ,  $p = .61$  ( $e^{0.04} = 1.04$ ; Figure 2b).

## Discussion

Youth's transition into adulthood has significant social and economic implications for their long-term adjustment across adulthood. Postponing or bypassing higher education and engaging in lower quality, non-career driven jobs, for example, have cascading effects for youth's future tasks (e.g., family formation, home ownership; Dietrich et al., 2012), their earning potential and spending habits and, ultimately, the national U.S. economy (Belfield, Levine, & Rosen, 2012; Heinz, 2003; Niu & Tienda, 2013). For this reason, it is important to understand the social and psychological processes that inform youth's decisions to enter into college and career settings. The 2005/06 economic bubble and 2007/08 economic recession created a context where U.S. families experienced economic surplus and scarcity within a span of two years (Taylor et al., 2010), and provided a unique context in which to explore how the socio-historical context informed youth adjustment. Further, our findings illustrated how Mexican-origin youth' perceptions of discrimination, sense of family obligations, and their family's economic resources informed youth' college and career outcomes.

Our study focused solely on the transitions of youth from Mexican-origin families, a subgroup for whom the negative impact of the 2007 economic recession was substantial (Lopez et al., 2009). However, it is important to note that many of the constructs assessed within this study, such as discrimination, economic hardship, and family obligation values, are important to examine in relation to the career and educational adjustment of youth from other marginalized groups (Chang, Chen, Greenberger, Dooley, & Heckhausen, 2006; Fisher, Wallace, & Fenton, 2000; Mello, 2009). Thus, the findings of this study have the potential to inform research and practice focused on African American families, Asian American families, other Hispanic populations, and lower income families.

Guided by a life course perspective (Elder, 1998; Elder et al., 2003), our study provided evidence for how youth's pre- or post-high school graduation status during the economic recession was associated with their education and career adjustment. By using a quasi-experimental, within-family research design we capitalized on data from two siblings who

graduated in two distinct economic and socio-historical contexts, and showed that even though two young adults share a family micro-environment, 2007 graduates/younger siblings reported less positive educational and career adjustment at age 20, as compared to their 2005 graduates/older siblings at age 20. The results suggest that entering into college and the *quality* of the education and employment system in which they entered differed for those who graduated from high school in 2005, when economic resources were more accessible, as compared to those graduating from high school in 2007. Further, the impact of the socio-historical context extended across multiple settings (e.g., work and education). Not only were 2005 graduates/older siblings more likely to attend more prestigious higher education systems, they were also more likely to have better quality jobs. Thus, our results support the premise set forth by a life course perspective (Elder, 1998; Elder et al., 2003), which suggests that the socio-historical context in which youth reside can impact youth's developmental trajectories and alert us to a cohort of youth (i.e., those who graduated near 2007/08) who may need additional supports and resources.

The inclusion of economic hardship and perceived discrimination also allowed for the examination of *mechanisms* linked to education and career adjustment, above and beyond the proxy measure of the national economic and socio-historical climate. Specifically, García Coll and colleagues (1996) suggested that processes underlying social stratification (i.e., economic hardship, discrimination) create contexts that place youth at risk for suboptimal development, individually and in combination with one another. The results of our study partially support such a notion as direct experiences of family economic hardship and perceived discrimination were deterrents to youth's attendance at a post-secondary institution. In addition, the adverse impacts of discrimination extended to the work environment as youth who perceived more discrimination reported working in lower quality jobs. In this way, our results align with our theoretical foundation and with qualitative research suggesting that Mexican-origin youth often forego their own wants and needs to support the family's economic needs (Sánchez et al., 2010), and that they may self-segregate into social realms where they expect to experience less discrimination (Catanzarite, 2000; Villalpando, 2003).

Next, we noted that perceptions of discrimination were only linked to less optimal adjustment in the context of *low* economic hardship. This finding is contrary to the expected relations set forth by the cultural-ecological model (García Coll et al., 1996) and life course perspective (Elder et al., 2003); therefore, we offer two culturally informed interpretations of how multiple risk factors may filter into Mexican-origin youth's educational and career outcomes. Keeping in mind that empirical research has shown youth self-segregate to avoid possible discrimination (Catanzarite, 2000; Villalpando, 2003), our moderated results, which showed that perceptions of discrimination were only linked to less optimal adjustment in the context of low economic hardship, may suggest that self-segregating behaviors occur when youth have more resources and, in turn, options available to them when making education and career decisions. An alternate interpretation may be that the Mexican-origin families' endorsement of values that place family needs above individual needs (Knight et al., 2010) may lead youth to ignore their own discomfort (i.e., experiences of discrimination) when their families face economic hardship. Our findings suggest that it is *only* when family economic circumstances are stable that youth allow their personal experiences to inform

their educational and career goals. This interpretation aligns with our descriptive findings, which demonstrated that the 2007 graduates/younger siblings reported less perceived discrimination than the 2005 graduates/older siblings. It is possible that these 2007 graduates/younger siblings were more focused on the salience of the national economic recession and their family's experiences of economic hardship rather than on their own experiences of discrimination. These alternate interpretations should be tested in future studies.

Finally, our results for family obligation values reflected the idea that cultural values can serve as a positive force in youth's development (i.e., education and career transitions); however, cultural values must also be considered in context. Independently, family obligation values were associated with positive outcomes (i.e., higher likelihood to be enrolled in a university); however, when we combined youth's cultural values with their economic context, our results show a more complex relation. For example, within this study we found that youth with high family obligation values were *less* likely to attend college, but only under conditions of *high* family economic hardship. A second finding showed youth with high family obligation values were *more* likely to enroll in a university, but only under conditions of *low* economic hardship. Taken together, these findings suggest youth were willing to forego a higher education if they felt the family could not take on the additional economic burden, but were more likely to aim for more prestigious education goals if the economic resources were available. Again, these quantitative findings complement previous qualitative (Sy, 2006) and demographic research (Sánchez et al., 2010) that have suggested, but not directly tested, such links. In this way, our study provides a direct exploration of *how* family values are associated with education and career decisions in early adulthood. Further, our results provide support for García Coll and colleagues' (1996) suggestion that the *combination* of structural barriers (e.g., family economic hardship) and culturally relevant values (e.g., family obligation values) lead to differential educational and career outcomes. Our results suggest that, at least in the short term, under conditions of high economic hardship, high family obligation values are associated with transitions into adulthood that could help the family in the short-term but may have long-term negative implications for youth's socioeconomic status.

### Limitations and Future Directions

Despite the strengths of this study, our findings must be interpreted with some limitations in mind. In particular, our sample represents two-parent Mexican-origin families in the Southwestern U.S. Thus, our findings cannot be extrapolated to youth in single parent families, foster homes, or grandparent-run households or to households in other geographic locations (e.g., new immigrant destinations). The 2007 economic recession represents an event that can be interpreted as a natural quasi-experiment of how socio-historical contexts may influence adjustment. Thus, research conducted with the above mentioned samples should consider whether data were collected prior to, during, or after this time, and how adjustment patterns could be partially explained by the economic recession. Such an analysis would provide a clearer understanding of *how* different family formations may help youth weather economic recessions, and may be useful for identifying possible intervention points in the future.

## Practical Implications

This study provides several insights that can inform practitioners. First, noting the important role of perceived discrimination in youth's self-segregating behaviors, it is important for colleges, especially those within university systems, to make concerted efforts to recruit and support minority youth. This may include dispelling myths about college life and college expectations that may conflict with youth' cultural beliefs and norms. Employers should follow a similar path in externally promoting and modeling non-discriminatory workplace environments. Second, the role of family obligation values coupled with the economic context provides possible college recruiters with insights as to which youth may need additional support. In particular, youth who endorse family obligation values but face economic hardship may find it difficult to leave their family behind in pursuit of a college education. These youth may benefit from additional counseling on the long-term benefits of a college education and the financial resources available to pay for such an education.

## Conclusion

In late adolescence, youth in the U.S. face the age-graded challenge of transitioning out of high school and into early adult roles (Crockett & Beal, 2012). This transition is informed by youth's awareness of available opportunities and resources, awareness of and pressure to abide by social norms, and sense of belonging within these new adult contexts (Ajzen, 1991; Sandler, 2000). How youth transition into adulthood has significant personal implications for their future adjustment as adults (e.g., family formation, home ownership; Dietrich et al., 2012), their life-course earning potential, and also broader long-term implications for the national economy (Belfield et al., 2012; Heinz, 2003; Niu & Tienda, 2013). Our study, positioned within a life-course perspective (Elder, 1998), showed how economic contexts and racially-driven political rhetoric informed ethnic minority youth's transition into adulthood. Further, our results lend support for the cultural-ecological perspective, which suggests that social class and culture interact to inform youth's sense of belonging, and their sense of social norms and responsibilities, which can lead to differential developmental outcomes (García Coll et al., 1996). Together, our findings highlight how macro- and micro-contexts may shape development and future socioeconomic status and help identify a cohort of youth (2007 graduates) who may need additional support in the years to come.

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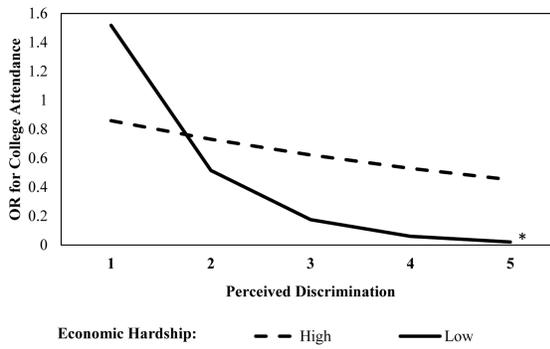
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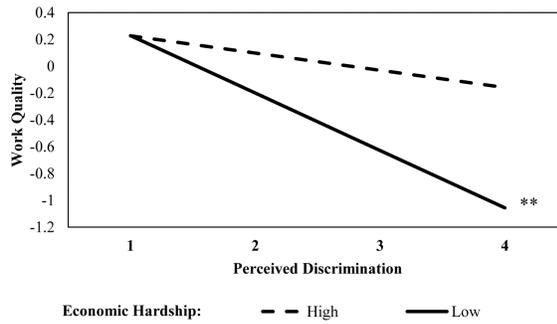
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### Highlights

- 2005 graduates were more likely to be enrolled in a university
- 2007 graduates were more likely to be enrolled in a community college
- 2007 graduates, compared to 2005 graduates, reported working in lower quality jobs
- Economic hardship and discrimination negatively impacted college and work outcomes
- Economic hardship moderated the impacts of family obligation values on outcomes



a.



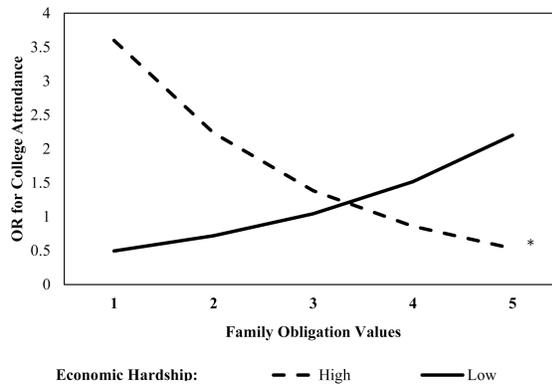
b.

**Figure 1.**

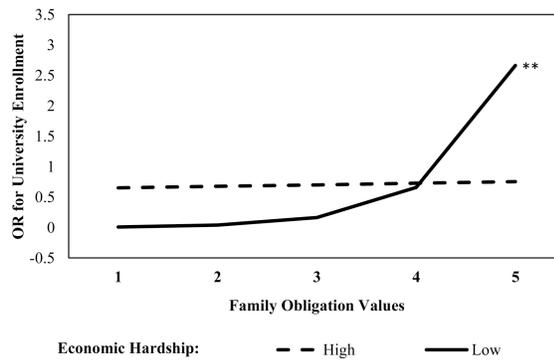
a. Odds ratios (OR) for attending college given youth's perceived discrimination, within the context of high and low economic hardship

b. The association between perceptions of discrimination and youth's work quality within the context of high and low economic hardship

*Note.* An odds ratio (OR) of 1 indicates no change in odds, a score below 1 indicates reduced odds, and a score above 1 indicates increased odds. A work quality score of 0 indicates a sample average score of work quality (i.e., salary, work hours, schedule, job prestige, work security), a score of -1 indicates one standard deviation below average in work quality, and a score of 1 indicates one standard deviation above average in work quality. \*  $p < .05$ . \*\*  $p < .01$ .



a.



b.

**Figure 2.**

a. Odds ratios (OR) for attending college given youth's family obligation values, within the context of high and low economic hardship

b. Odds ratios (OR) for university enrollment given youth's family obligation values, within the context of high and low economic hardship

*Note.* An odds ratio (OR) of 1 indicates no change in odds, a score below 1 indicates reduced odds, and a score above 1 indicates increased odds. \*  $p < .05$ . \*\*  $p < .01$ .

**Table 1**  
**Descriptive Statistics for 2005 Graduates/Older Siblings (Above the Diagonal) and 2007 Graduates/Younger Siblings (Below the Diagonal)**

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. College attendance <sup>a</sup>	—	-.05	.04	.07	-.40	-.25	.10	-.17	-.21	-.05	.20	.25
2. University enrollment <sup>b</sup>	-.01	—	-.04	-.14	.06	.18	.22	.17	-.26	.12	.21	.27
3. Employment status <sup>c</sup>	.06	.02	—	.00	-.05	.14	-.04	.14	-.06	.13	.05	-.06
4. Work quality	-.06	.20	.31	—	-.06	-.17	.19	-.02	-.07	-.11	-.06	-.05
5. Parents' economic hardship <sup>d</sup>	-.35	-.03	.00	.03	—	.17	.11	.05	.33	-.12	-.10	-.17
6. Youth's perceived discrimination	-.15	.18	.01	-.19	.11	—	-.18	.22	.15	-.06	-.14	-.19
7. Youth's family obligation values	-.13	.24	-.10	-.09	.08	.19	—	.07	.07	.07	-.04	-.03
8. Male <sup>e</sup>	-.05	-.08	-.02	-.01	.04	.01	-.04	—	-.10	.02	-.02	-.09
9. Immigrant <sup>f</sup>	-.34	-.10	-.05	-.05	.40	.15	-.03	.04	—	.02	-.10	-.12
10. Birth order <sup>g</sup>	-.07	-.03	.08	.15	.05	-.04	-.08	.04	-.09	—	-.04	.02
11. Mothers' educational aspirations	.15	-.06	-.01	.03	-.15	-.04	.14	.02	-.09	-.02	—	.42
12. Fathers' educational aspirations	.22	.19	-.02	.11	-.21	-.02	.07	-.07	-.14	-.02	.42	—
2005 graduates/older siblings												
<i>M</i>	0.51	0.45	0.77	0.40	0.04	1.49	4.10	0.50	0.46	0.46	16.64	16.60
<i>(SD)</i>	(0.50)	(0.52)	(0.41)	(0.48)	(2.32)	(0.50)	(0.55)	(0.50)	(0.50)	(0.61)	(1.83)	(1.91)
2007 graduates/younger siblings												
<i>M</i>	0.249	0.27	0.17	0.23	5.37	0.25	0.304	0.25	0.249	0.38	3.37	3.63
<i>(SD)</i>	(0.51)	(0.45)	(0.47)	(0.48)	(0.38)	(0.46)	(1.87)	(0.48)	(1.20)	(0.83)	(1.90)	(0.50)

Note.

<sup>a</sup>College attendance is 0 = not attending college, 1 = attending college.

<sup>b</sup>University enrollment is 0 = enrolled in community or vocational college, 1 = enrolled in a university.

<sup>c</sup>Employment status is 0 = not employed, 1 employed.

<sup>d</sup>Parents' economic hardship was assessed at T2 for older siblings and T3 for younger siblings.

<sup>e</sup>Male is 0 = female, 1 = male.

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$f$  Immigrant is 0 = U.S.-born, 1 = immigrant.

$g$  Birth order: 0 = first-born child, 1 = second-born, 2 = later-born child. Based on the full information maximum likelihood sample size of  $n = 479$ , correlations that are italicized are significant at  $p < .05$ , and correlations that are bolded are significant at  $p < .01$ .

**Table 2**  
**Unstandardized Estimates for 2005 Graduates/Older Siblings' and 2007 Graduates/Younger Siblings' Educational and Career Adjustment at Age 20**

	College Attendance <sup>a</sup>			University Enrollment <sup>b</sup>			Employment Status <sup>c</sup>			Work Quality		
	<i>b</i>	(SE)	<i>p</i>	<i>b</i>	(SE)	<i>p</i>	<i>b</i>	(SE)	<i>p</i>	<i>b</i>	(SE)	<i>p</i>
<i>Covariates</i>												
Male <sup>d</sup>	-0.12	(0.14)	0.38	0.89	-0.04	(0.27)	0.88	0.96	0.12	(0.15)	0.41	1.13
Immigrant <sup>e</sup>	<b>-0.32</b>	<b>(0.14)</b>	<b>0.02</b>	<b>0.73</b>	<b>-0.80</b>	<b>(0.22)</b>	<b>0.00</b>	<b>0.45</b>				
Birth order <sup>f</sup>									0.25	(0.15)	0.11	1.28 -0.01 (0.05) 0.77
Fathers' educational aspirations	<b>0.10</b>	<b>(0.04)</b>	<b>0.01</b>	<b>1.11</b>	<b>0.19</b>	<b>(0.07)</b>	<b>0.01</b>	<b>1.20</b>				
Mothers' educational aspirations	0.00	(0.04)	0.93	1.00	-0.11	(0.06)	0.07	0.89				
<i>Predictors</i>												
2005 graduates/older siblings <sup>g</sup>	<b>0.29</b>	<b>(0.15)</b>	<b>0.04</b>	<b>1.34</b>	<b>0.69</b>	<b>(0.25)</b>	<b>0.01</b>	<b>2.00</b>	<b>0.40</b>	<b>(0.22)</b>	<b>0.06</b>	<b>1.50</b> <b>0.19</b> <b>(0.07)</b> <b>0.00</b>
Parents' (P) economic hardship <sup>h</sup>	<b>-0.13</b>	<b>(0.03)</b>	<b>0.00</b>	<b>0.88</b>	0.04	(0.05)	0.46	1.04	-0.03	(0.04)	0.42	0.97 -0.01 (0.02) 0.56
Youth's (Y) perceived discrimination	<b>-0.56</b>	<b>(0.20)</b>	<b>0.00</b>	<b>0.57</b>	<b>0.57</b>	<b>(0.33)</b>	<b>0.08</b>	<b>1.77</b>	<b>0.28</b>	<b>(0.19)</b>	<b>0.14</b>	<b>1.33</b> <b>-0.19</b> <b>(0.07)</b> <b>0.01</b>
Youth's (Y) family obligations	0.02	(0.14)	0.91	1.02	<b>0.60</b>	<b>(0.28)</b>	<b>0.03</b>	<b>1.83</b>	-0.19	(0.16)	0.23	0.83 0.06 (0.05) 0.28
<i>Interaction Terms</i>												
P ec. hardship X Y discrimination	<b>0.16</b>	<b>(0.05)</b>	<b>0.00</b>	<b>1.17</b>								<b>0.05</b> <b>(0.02)</b> <b>0.03</b>
P ec. hardship X Y family obligations	<b>-0.15</b>	<b>(0.05)</b>	<b>0.00</b>	<b>0.86</b>	<b>-0.29</b>	<b>(0.10)</b>	<b>0.00</b>	<b>0.75</b>				
<i>R</i> <sup>2</sup>	<b>0.37</b>	<b>(0.06)</b>	<b>0.00</b>	<b>0.53</b>	<b>(0.16)</b>	<b>0.00</b>	<b>0.07</b>	<b>(0.04)</b>	<b>0.07</b>	<b>(0.04)</b>	<b>0.07</b>	<b>0.06</b> <b>(0.03)</b> <b>0.02</b>

Note. *N* = 246 sibling dyads. Model Fit:  $\chi^2(13) = 4.80, p = .98$ ; RMSEA = .00, 90% CI [.00, .00]; CFI = 1.00.

<sup>a</sup> College attendance is 0 = not attending college, 1 = attending college.

<sup>b</sup> University enrollment is 0 = enrolled in community or vocational college, 1 = enrolled in a university.

<sup>c</sup> Employment status is 0 = not employed, 1 employed.

<sup>d</sup> Male is 0 = female, 1 = male.

<sup>e</sup> Immigrant is 0 = U.S.-born, 1 = immigrant.

<sup>f</sup> Birth order: 0 = first-born child, 1 = second-born, 2 = later-born child.

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<sup>g</sup>2005 graduates/older siblings: 0= 2007 graduates/younger siblings, 1 = 2005 graduate/older sibling.

<sup>h</sup>Parents' economic hardship was assessed at T2 for older siblings and T3 for younger siblings. For ease of interpretation, bolded estimates indicate they are significant at  $p < .05$ ; italicized estimates are a trend,  $p < .10$ . OR = odds ratio, and is only used to help interpret estimates related to our dichotomous outcomes. An OR score of 1 indicates no change in odds, a score below 1 indicates reduced odds, and a score above 1 indicates increased odds. Covariates included in the model were determined by a significant correlation ( $p < .05$ ) with dependent variables (see Table 1). The pattern of results was the same with and without covariates.