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Early Influences and Later Outcomes Associated With Developmental Trajectories of Eriksonian Fidelity

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Abstract

Although Eriksonian theory suggests that adolescents' sense of fidelity is a key component of healthy development, research on this psychosocial construct has been limited. The current study developed an index of youth fidelity, examined the developmental course of this construct, explored the influence of contextual factors on different fidelity trajectories, and tested if trajectories were associated with later indicators of adolescents' positive development. Participants included 1,941 ethnically diverse youth (61% female) participants in the 4-H Study of Positive Youth Development who were recruited from schools and youth development programs across the United States. Results suggested that three types of developmental trajectories existed among youth: *high and increasing*, *moderate and increasing*, and *low and decreasing*. Fidelity group membership varied in relation to social relationships and psychosocial and behavioral characteristics (i.e., contribution, substance use, and delinquency). Girls were more likely than boys to be in the highest fidelity trajectories. Directions for future research and implications for enhancing the thriving of adolescents are discussed.

Keywords

fidelity; adolescents; parenting; youth development programs; positive youth development

Ego strengths, also described as basic virtues or character, correspond with the successful resolution of each developmental stage (e.g., hope emerges from trust in infancy, and wisdom emerges from integrity in older adulthood; Erikson, 1962). Fidelity, the ego strength associated with adolescence, is defined as "the ability to sustain loyalties freely pledged in spite of the inevitable contradictions of value systems" (Erikson, 1964, p. 125). According to Erikson, fidelity emerges as a virtue at the end of the identity crisis in adolescence and indicates that a stable identity has been achieved.

Previous studies have indicated that when adolescents develop a sense of fidelity, they are more apt to become active citizens in society and that this personal commitment to others

and social institutions will follow individuals into their adult life allowing for the development of intimate relationships (Côté, 2009; Markstrom, Berman, Sabino, & Turner, 1998). On the other hand, people who do not develop fidelity are more reluctant to select and commit to a belief system (diffidence) or are likely to commit to a negative identity and the ideology that follows (defiance; Markstrom & Kalmanir, 2001).

Although examination of adolescents' fidelity has received little attention within the youth development literature over the past 10 years, a revival of Erikson's notion of fidelity may hold significant implications for advancing the positive youth development literature and enhancing researchers' understanding of antecedents of adolescents' service behaviors. Therefore, the purpose of this research was to provide evidence for the use of a new measure of fidelity, examine the course of fidelity development across adolescence, assess the nature of fidelity by examining contextual factors that may predict its developmental course, and explore adolescent outcomes associated with different trajectories of fidelity.

Erikson's Conception of Fidelity

Erikson (1959, 1964, 1985) presented the idea of ego strengths, or virtues, as part of his theory of psychosocial development. He believed that successful resolution of each of the eight successive nuclear crises involved in ego development across the life cycle resulted in a specific virtue. For instance, hope emerges from trust in infancy, will stems from autonomy in toddlers, purpose transpires from initiative in preschool, competence derives from industry in childhood, fidelity develops from identity in adolescence, love springs from intimacy in young adulthood, care emanates from generativity in middle adulthood, and wisdom emerges from integrity in older adulthood. Yet relatively little research has explored the life-span development of these virtues although and, insofar as adolescence is concerned, despite the large body of literature examining identity structure and development; the study of fidelity has also received relatively little attention (Côté, 2009).

In speaking about adolescence and fidelity, Erikson stated that "society recognizes the young individual as a bearer of fresh energy and that the individual so confirmed recognizes society as a living process which inspires loyalty as it receives it, maintains allegiance as it attracts it, honors confidence as it demands it" (1962, p.11). Adaptive development in the form of fidelity emerges as feelings of attachment toward society and as an individual expresses behaviors that confirm his or her commitment both to individuals and institutions in society. Meeting the potentially new and increasing demands from society for young people to define themselves prompts youth to begin to examine their beliefs and values, and, in turn, provides opportunities for youth to commit to a set of values and to social institutions (e.g., upholding behaviors that are socially acceptable). Therefore, concepts such as loyalty and commitment to choice, people, and beliefs are at the heart of fidelity (Erikson, 1962, 1964; Furrow, King, & White, 2004; Markstrom & Kalmanir, 2001). In addition, Markstrom and Marshall (2007, p. 66) also described fidelity as adolescents' sense of "genuineness, fairness, and duty," and they go on to note that Erikson contended that adolescents who lack a sense of fidelity would experience role repudiation.

According to Erikson (1968), establishing an ideological commitment to one's beliefs and values about the self and society (i.e., identity achievement) corresponds with the development of fidelity. Although previous studies have examined fidelity as a construct that emerges from the resolution of the identity crisis (e.g., among college youth), Erikson posited that the ego strengths are all present in other developmental stages but that each becomes prominent in its corresponding stage. It is therefore possible that fidelity may be a psychosocial construct that is best understood through longitudinal examination. Furthermore, theory on ego strengths also suggests that these facets of the ego are hierarchical and epigenetically linked throughout the life span, which may mean that fidelity is related to competence (i.e., awareness that one has skills and knowledge) and to love (i.e., commitments to other people). Therefore, Erikson (1959; see too Côté, 2011) would argue that successfully developing ego strengths at any subsequent stage would be difficult (perhaps even impossible; Lerner, 2002) unless preceding ego strengths have been adequately developed.

The Contemporary Study of Fidelity

Although, as noted, there have been published studies on fidelity in adolescents, the research that does exist has examined fidelity as an indicator, or one component, of identity attainment (Kroger, 1989; Markstrom-Adams, Hofstra, & Dougher, 1994; Markstrom, Sabino, Turner, & Berman, 1997; Stringer, 1994). However, the few studies that exist have been cross-sectional and have involved small samples of participants. For instance, Markstrom and colleagues (1997) developed the Psychosocial Inventory of Ego Strengths (PIES) in order to measure the eight ego strengths: hope, will, purpose, competence, fidelity, love, care, and wisdom. While this research is an important marker of progress in the study of fidelity, one of the limitations of the PIES is that it was developed and validated on small samples of college students; while some recent research on the PIES has begun to examine its validity among high school students (e.g., Markstrom & Marshall, 2007), the use of the measure among young adolescents remains uncertain.

Psychometric work by Markstrom and Marshall (2007) demonstrated that fidelity, as measured by the PIES, was highly correlated with identity achievement and negatively related to diffusion and moratorium. Results of this study also indicated that fidelity was not correlated with identity foreclosure. This finding is not surprising given that the identity statuses do not exist on a continuum, and therefore, correlational analyses may not be the best method for examining relations between fidelity and the statuses. Waterman (1999) cautioned that although diffusion is considered the least mature and least complex identity status, and achievement is the most mature, the identity statuses are not a continuum because both moratorium and foreclosure have strengths and weaknesses. As a result, there is no progression from one status to the next. In the current study, we examined relations between identity (e.g., as indexed by a continuous measure of ideological commitment) and the measure of fidelity we developed; in addition, we examined fidelity in relation to another theoretically relevant construct, youth competence.

Scholars have suggested that some youth in the United States may not attain and may even abhor fidelity (e.g., Côté, 2009). As such, they may experience the identity crisis in a new

way, as “some people embrace and celebrate fluid identities associated with superficial interpersonal displays of appearance, a lack of core character and consistency, and eschewing social commitments in favor of contextual allegiances” (Côté, 2009, p. 295). Thus, adolescents’ failure to develop a sense of fidelity may hold negative implications for community contributions or active and engaged citizenship (Zaff, Boyd, Li, Lerner, & Lerner, 2010), both in adolescence and possibly in later life as well. However, empirical research is needed to determine if these assertions can be supported. Simply, does the development of fidelity covary with the development of active and engaged citizenship? In the present research, we assessed if Côté’s (2009) suggestion finds support in data derived from contemporary American adolescents.

Individual–Context Relations and the Development of Fidelity

One reason to expect that there will be variation in the link between fidelity and community contribution/active citizenship is that fidelity may be a facet of ego development that does not simply unfold as a consequence of a maturational ground plan (e.g., Erikson, 1959) but, like other aspects of identity and all features of human development, is part of a relational developmental system that involves mutually influential relations between youth and their contexts (Lerner, 2002; Overton, 2010). Fidelity as part of such an integrated developmental process should then be influenced by multiple individual and contextual factors. Therefore, longitudinal research is needed to chart the course of the individual-context relations involved in the growth of fidelity across adolescence. Similarly, longitudinal research may be useful in illustrating the relationships between fidelity and adolescents’ later behavioral outcomes (e.g., contributions to civil society).

Given that few studies have examined the relations between fidelity and other aspects of development, we drew on implications of identity research to make theoretical inferences about the processes involved in adolescents’ fidelity. A major component of fidelity is a concern for commitment to personal values and social institutions. Markstrom and Marshall (2007) asserted that fidelity is defined by two themes: preoccupation with being true to oneself and others, and demonstrating one’s commitment through loyalty and service. However, in order for adolescents to make commitments to institutions, they must first find that individuals within institutions are worthy of their commitment. Previous research has emphasized that strong social relationships with adults are important for adolescents’ positive development (Gambone & Connell, 2004; Theokas & Lerner, 2006), and adults are a key component of adolescents’ context that helps to shape values, beliefs, and behaviors. However, while previous research has found relations between individuals’ fidelity and commitment to social institutions, no research to date has examined how social relationships inform development of adolescents’ fidelity. In the current study, we focused on three important contextual resources: parents, youth development programs, and other adult supports (see Benson, Scales, Hamilton & Sems, 2006, and Mahoney, Vandell, Simpkins, & Zarrett, 2009, for reviews).

Previous research has found that parenting practices are related to adolescents’ identity formation. Leading up to adolescence, parents are the main socializing agent of their child’s identity. For example, contrary to popular beliefs that parents are replaced by peers, parents

retain their importance when their children enter adolescence (Laursen & Collins, 2009). In fact, adolescents are likely to consult with their friends on everyday choices, such as music and clothing, but to consult with their parents on important matters, such as beliefs and values (Collins & Steinberg, 2006). In addition, high parental warmth is associated with more favorable identity statuses (e.g., moratorium and achievement), although excessive parenting practices may hinder adolescents' self-exploration if families become enmeshed (e.g., Luyckx, Soenens, Vansteenkiste, Goossens, & Berzonsky, 2007). Accordingly, we assessed if parenting practices were related to the development of adolescents' fidelity.

In turn, given that adolescents spend less time with parents and more time with peers in different social contexts, such as in youth development programs and extracurricular activities (Mahoney et al., 2009; Simpkins, Eccles, & Becnel, 2008), we assessed as well links between the development of fidelity and these additional facets of the ecology of youth development. Out-of-school-time (OST) youth development (YD) programs provide opportunities for youth to express loyalty and commitment both to the institution and to individuals, which are key components of fidelity (e.g., social and personal commitments). In addition, some programs focus specifically on self-evaluation and personal or social development (Durlak, Mahoney, Bohnert, & Parente, 2010). Such programs provide curricula to foster the interest of youth in defining and committing to their goals. In short, while no research has directly examined the impact of adolescents' participation in YD programs on the development of fidelity, the nature of youth involvement in these programs allows us to infer that such an association may exist.

While YD programs may influence adolescents' sense of fidelity in many beneficial ways, one important way may be through connecting youth with other adult role models outside the family. Research by Rhodes, Spencer, Keller, Liang, and Noam (2006; see too Rhodes & Lowe, 2009) suggested that youth–adult mentoring relationships influence youth in three key developmental areas: social and emotional development, cognitive development, and identity development. For example, mentoring relationships positively influence social and emotional development through altering adolescents' perceptions of adults. In linking mentoring to adolescents' identity development, Rhodes et al. (2006) asserted that adult mentors may assist adolescents in bridging the gap between their current selves and their future selves. For these reasons, we expected adult supports would present another contextual resource that may influence some adolescents' sense of fidelity as well.

Linking Fidelity to Psychosocial and Behavioral Outcomes in Youth

If youths' relations with various social contexts place them on a developmental path wherein fidelity emerges, then—consistent with the linkages expected within the relational developmental system (Overton, 2010)—developmental outcomes should be associated with the course of fidelity. Given Erikson's (1959, 1964, 1968) belief that fidelity links the young person to his or her context, higher levels of fidelity should correspond with positive individual–context relations, such as youth community contributions, and to lower levels of social or personal risk and problem behaviors. Fidelity involves adhering to one's beliefs and values even when faced with opposition to one's views and, as noted, may be reflected in a youth being true to himself or herself and in a demonstration of commitments, for

instance, through community service. Therefore, we expected that youth who showed high levels of fidelity would be the most likely to also manifest high levels of community contribution.

Admittedly, however, empirical support for these expectations is sparse and derived from cross-sectional data. For example, Markstrom, Hofstra, and Doughter (1994) found that fidelity was positively correlated to adolescents' commitment to social institutions, in this particular study, the social institution of churches. Markstrom and Marshall (2007) found that higher levels of fidelity were positively related to self-esteem in college youth. One reason we believe that fidelity may be related to lower levels of risk behaviors is that adolescents who develop a stable sense of self are less likely to engage in delinquent behavior and less likely to use drugs and alcohol (Schwartz, Mason, Pantin, & Szapocznik, 2008). In addition, research has found that identity confusion is related to negative developmental outcomes, such as lower self-concept (Côté, 2009), increased risky behaviors (Hernandez & DiClemente, 1992), and higher levels of substance abuse (Jones & Hartmann, 1988; Jones, Hartmann, Grochowski, & Glider, 1989). Furthermore, fidelity is theoretically the antithesis to role repudiation, which is characterized by defiance, which among adolescents may be expressed as delinquency and substance use. Therefore, we expected that adolescents who have high levels of fidelity would engage in lower levels of risky or problem behaviors than those with lower levels of fidelity.

In sum, although previous studies have examined how fidelity relates to psychosocial well-being, additional studies are needed to understand the complexities of the relation. To address these limitations, we examined fidelity in the present study using a new, theoretically based measure. Furthermore, no studies that we are aware of have examined the developmental nature of fidelity across adolescence. Given our focus on examining the developmental course of fidelity across adolescence, the current study assessed adolescents' fidelity beginning in sixth grade. In addition, in the present study we attempted to address questions regarding the process of fidelity development within a relational developmental system; we therefore examined both possible antecedents and outcomes associated with developmental trajectories of fidelity.

The Current Study

Research to date has not taken an integrative approach to studying fidelity, one that considers individual growth trajectories that may occur for different adolescents, varying by family and community context. Therefore, using data from the 4-H Study of Positive Youth Development (PYD; e.g., Lerner et al., 2005), the four goals of this research were (a) to examine the psychometric properties of a new measure of adolescents' fidelity; (b) to determine if different trajectories of fidelity development occur across adolescence (i.e., across Grades 6 to Grade 10); (c) to explore, if trajectories exist, how contextual factors influence them; and (d) to examine if different trajectories of adolescents' fidelity are associated with positive or problematic psychological and behavioral outcomes.

Method

Data for the current study were derived from a subset of participants in the 4-H Study of PYD (Lerner et al., 2005, Lerner, von Eye, Lerner, Lewin-Bizan, & Bowers, 2010). To date, the 4-H Study has surveyed over 7,000 youth from 43 states and a sample of about 3,500 parents on measures of PYD, risky or problem behaviors, and indicators of youth strengths and ecological resources, such as participation in OST activities. The method of the 4-H Study has been documented in several publications (e.g., Bowers et al. 2010; Lerner et al., 2005, 2010; Lerner, Lerner, von Eye, Bowers, & Lewin-Bizan, 2011; Li & Lerner, 2011), and we will therefore present only the portion of the method pertinent to the present study.

The sample for the current study consisted of 1,941 adolescents (61% female) who participated in at least two waves of data collection from Grade 6 through Grade 10. Participants were recruited from schools or from 4-H or other OST programs across the United States. The sample used in the present research included 68.9% European Americans, 10.3% Latino Americans, 6.6% African Americans, 1.8% Asian Americans, 1.4% American Indians, 2.7% bi/multi-racial, and 6.3% of youth who reported their race/ethnicity inconsistently or chose not to report it. The mean age of youth in this sample at Grade 6 was 12.06 for girls ($SD = 0.70$ years) and 12.13 for boys ($SD = 0.67$ years).

Procedure

For the first three waves of data collection, teachers or program staff gave each child an envelope to take home to the parent or guardian. The envelope contained a letter explaining the study, two consent forms (one that was returned to the school and one that could be kept for the records of the parent or guardian), a parent questionnaire (PQ), and a self-addressed stamped manila envelope for returning the parent questionnaire and consent form. Data collection was conducted by trained study staff or assistants hired at more distant locations. A detailed protocol was used to ensure that study materials were returned and that data collection procedures were uniformly followed. The procedure began with reading the instructions for the student questionnaire to the youth. Participants were instructed that they could skip any questions they did not wish to answer. A 2-hr block of time was allotted for data collection, which included one or two short rest periods. During Grades 6 and 7, students who were unable to be surveyed at their school or site, in that they were either absent during the day of testing or the school superintendent did not allow testing to occur in the school, received a survey in the mail.

For Grades 8, 9, and 10, youth were surveyed in their schools or youth programs with the same procedure as in the first three waves. Youth who were absent on the day of data collection or who were from schools that did not allow on-site testing were contacted by e-mail, mail, or phone, and were asked to complete and return the survey. Beginning in Grade 9, youth could go also online to complete the survey at a location of their choosing (e.g., home, school, public library).

Attrition in the 4-H Study sample is not randomly distributed across schools or youth program sites. For example, in Grades 6 and 7, some principals withdrew consent for their schools to participate, and therefore, these students “dropped out” without having had the

opportunity to remain in the study. For example, of the 1,954 participants tested in Wave 2 (sixth grade), 21.5% individually withdrew their participation from Wave 3 (seventh grade), whereas 337 (17.5%) dropped out because of school or site withdrawal from the study. In Grades 8, 9, and 10, many of the same schools did not allow us to conduct on-site data collection. However, youth in these schools were contacted individually and were asked to complete the survey through mail or online. Since we consistently contacted all youth who ever participated in the study, many youth who were not surveyed in previous waves participated in later waves of data collection.

Measures

Fidelity—Six items from Search Institute’s Profiles of Student Life: Attitudes and Behaviors (PSL–AB; Benson, Leffert, Scales, and Blyth, 1998) were used to assess adolescents’ fidelity. The six items were thought to reflect components of fidelity that are developmentally appropriate for early adolescents (e.g., preoccupation with justice, fairness, and commitment to beliefs in spite of opposition). The items selected from the PSL–AB were similar in content to items used by Markstrom, Sabino, Turner, and Berman (1997) to measure fidelity within the Psychosocial Inventory of Ego Strengths and measured core characteristics of fidelity. Based on our reading of Erikson’s (1962) key article on fidelity and on writings by Markstrom and colleagues on fidelity (e.g., Markstrom et al., 1997), we believed that the items captured elements of fidelity well. For example, commitments to upholding ideological commitments to social institutions and the expression of behaviors that reflect one’s commitment are the essence of fidelity according to Erikson (1962). Items such as “Standing up for equality” and “Accepting responsibility for my actions when I make a mistake or get in trouble” reflect both the personal commitment to values when faced with opposition as well as the focus on prosocial concepts, such as justice and truth that are part of fidelity. In addition, these items have been derived from a preexisting set of items that have been shown to contain language that is developmentally appropriate for adolescents.

Youth were asked, “How important is each of the following to *you* in your life?” Items included “Doing what I believe is right, even when it’s unpopular to do”; “Telling the truth, even when it’s not easy”; and “Standing up for equality (everyone should have the same rights and opportunities).” Responses ranged from 1 (*not important*) to 5 (*extremely important*). As will be discussed in the Results section, the data supported the presence of a single latent factor integrating scores for these items, and thus fidelity was measured as a mean composite of adolescents’ responses to the six items. The measure was scored such that higher scores indicated higher fidelity. Cronbach’s alphas for Grades 6–10 ranged from .85 to .92.

Competence—The competence measure comprises 17 items (see Jellicic, Bobek, Phelps, Lerner, & Lerner, 2007, and Lerner et al., 2005, for psychometric properties of the scale). Twelve of the items were derived from the Self-Perception Profile for Children (SPPC; Harter, 1983). Six of the items form an Academic Competence Scale, and six of the items form a Social Competence Scale. The SPPC uses a structured alternative response format. For example, one item from the Academic Competence Scale states “Some kids feel like

they are just as smart as other kids their age but other kids aren't so sure and wonder if they are as smart." Participants are then asked to choose if they are like "some kids" or "other kids" and then rate if the statement is "really true for them" or "sort of true for them." An example of an item from the Social Competence Scale is "Some kids have a lot of friends but other kids don't have very many friends." The remaining five items used to index competence were derived from the Search Institute's PSL-AB (Benson et al., 1998). Four items measure school engagement. Three of these items have a forced-choice response to ascertain how often a respondent does something. The response format for these items range from 1 (*usually*) to 3 (*never*). An example of an item measuring school engagement using this response format is "How often do you feel bored at school?" The fourth school engagement item, "At school I try as hard as I can to do my best work," has a response format ranging from 1 (*strongly agree*) to 5 (*strongly disagree*). The final item measuring competence—"What grades do you earn in school?"—has a forced-choice response format that ranges from 1 (*Mostly As*) to 8 (*Mostly below Ds*). Cronbach's alpha for the Competence Scale at Grade 6 was .92.

Identity—Twelve items from the Erikson Psychosocial Inventory (EPI; Rosenthal, Gurney, & Moore, 1981) were used to assess ideological identity. The EPI has been widely used with early adolescent populations. Sample items include "I've got a clear idea of what I want to be" and "I don't have a clear sense of what I believe." Six negatively worded items were reverse coded. Responses range from 1 (*hardly ever true*) to 5 (*almost always true*), with higher scores indicating a successful resolution of the identity crisis. Cronbach's alpha Grade 6 was .75.

Grade 6 Covariates of Fidelity

Maternal warmth—Portions of the Child's Report of Parents Behavioral Inventory (CRPBI; Schludermann & Schludermann, 1970) were included in the 4-H Study to assess ecological assets. The CRPBI is a widely used self-report measure of children's assessment of parenting practices. Only the Maternal Warmth subscale was used in the current study. Higher scores indicate higher warmth and nurturance. In the present data set, the Cronbach's alpha for maternal warmth for Grade 6 was .95.

Parental knowledge—The eight-item Parental Monitoring Scale (PMS; Small & Kerns, 1993) is an adolescent self-report instrument that assesses the extent to which parents know the whereabouts of their child after school and at night, and have knowledge of their child's friends and their parents. Sample items include "My parents know where I am after school" and "My parents know how I spend my money." Responses range from 1 (*never*) to 5 (*always*), with higher scores indicating higher levels of parental knowledge. In the present sample, Cronbach's alpha for Grade 6 equaled .91. In the 4-H Study data set, the Cronbach's alpha for the PMS was .89.

Parental involvement—Parental Involvement is a subscale of the ecological assets construct (see Theokas et al., 2005) consisting of four items derived from the PSL-AB (Benson et al., 1998). Each item is measured using a 5 point Likert-type scale, ranging from 0 (*never*) to 4 (*very often*), with a higher score reflecting greater parental involvement. The

scale is computed by taking the mean of at least three of the four items. An example of an item from this scale is “How often does one of your parents ask about your homework?” Cronbach’s alpha for Grade 6 was .76.

Participation in YD programs—OST activity-related questions were created to assess a respondent’s participation in various types of activities. Most of the activity items were categorized into five groups: Community Programs, Community Sports/Physical Activities, Arts, Service Activities, and School Clubs or Activities. All items asked participants to indicate how often they participated in specific activities, with responses ranging from 0 (*never*) to 5 (*every day*). In addition, there were questions about participation in 4-H camp and service activities not required by a respondent’s school. For the purpose of this study, a dichotomous variable was created to capture whether or not youth had participated in a YD program during the previous year (0 = *no*, 1 = *yes*).

Adult supports—This scale consists of five items derived from the Search Institute’s PSL-AB (Leffert et al., 1998; Theokas et al., 2005) questionnaire to assess participants’ relationships with adults other than their parents. Sample items included “Not including your parents, how many adults have you known for 2 or more years that you look forward to spending time with” and “Not including your parents, how many adults have you known for 2 or more years that do things that are wrong and dangerous?” (reverse coded) The response scale ranges from 1 (*zero*) to 5 (*five or more*), indicating the number of relevant nonparental relationships. In the present data set, Cronbach’s alpha for Grades 6 was .87.

Grade 10 Outcomes Associated With Fidelity

Contribution—The degree to which youth contributed to their families and communities (Contribution) was measured as a composite (mean) score of 12 items across four item subsets: Leadership, Service, Helping, and Ideology. Leadership, the first subset, is assessed with an item from the PSL-AB—“During the last 12 months, how many times have you been a leader in a group or organization?”—that uses a forced-choice response format ranging from 1 (*never*) to 5 (*five or more times*). Service, the second subset, is derived by adding the responses of three items created for the 4-H Study. For each item, participants are asked to indicate whether participation in a particular activity applies to them. An example of an item is “volunteer work.” The third subset, called Helping, is a measure of the average of two items from the PSL-AB in which participants respond about the average amount of time they spend doing certain activities during an average week. The response choices range from 0 (*zero*) to 5 (*11 or more hours*). One of the items is “Helping friends or neighbors.” Ideology, the fourth subset, is a scale that measures contribution ideology with four items from the Teen Assessment Project Survey Question Bank (TAP; Small & Rodgers, 1995) and two items that were created for the 4-H Study. The items from TAP use a forced-choice response scale ranging from 1 (*strongly agree*) to 5 (*strongly disagree*). An example of an item is “It is important to me to contribute to my community and society.” The two items that measure contribution ideology that were created for the 4-H Study ask participants to think about their future and to assess their chances for doing certain things. The response format ranges from 1 (*very low*) to 5 (*very high*). An example of an item is “Be involved in community service.” These items were derived from existing instruments with good

psychometric properties. The instruments have been used in large-scale studies of adolescents (i.e., PSL-AB; Benson et al., 1998; and TAP; Small, & Rodgers, 1995). Furthermore, use of the Contribution measure has been documented in other publications (e.g., Jelenc et al., 2007). Higher scores represented higher levels of contribution. In the present study, Cronbach's alpha for Grade 10 was .79.

Depressive symptoms—The Center for Epidemiological Studies–Depression Scale (CES–D; Radloff, 1977) was used to measure depressive symptoms in the current study. The measure has been used extensively in adolescence, and validity and reliability with populations in high school and junior high school have been established (e.g., Johnston, O'Malley, & Bachman, 2001; Radloff, 1991). For example, Windle et al. (1986) demonstrated the construct validity of the measure with sixth graders. Adolescents responded to 20 individual items and reported how often they had felt that way during the previous week. Sample items include “I was bothered by things that usually don't bother me” and “I felt sad.” The response format ranges from 0 (*rarely/none of the time*) to 3 (*most/all of the time*). Items are then summed for a total score. Higher scores are indicative of more depressive symptoms. The Cronbach's alpha for Grade 10 was .88.

Substance use—Five items in each wave assessed the frequency of respondents' substance use (e.g., smoked cigarettes, drank alcohol, used marijuana or hashish, or chewed tobacco) in the previous year. The response format ranges from 1 (*never*) to 4 (*regularly*). A sample item is: “During the last 12 months, how many times have you used marijuana?” In the present study, the Cronbach's alpha for Grade 10 was .84.

Delinquency—Indicators of delinquency were measured with questions derived from items in the Monitoring the Future questionnaire (Johnston, O'Malley, & Bachman, 2001). Four items assessed the frequency of delinquent behaviors, such as stealing, hitting or beating up someone, getting in trouble with police, and vandalism, during a particular time period. The response format ranged from 1 (*never*) to 5 (*five or more times*). A sample item is “During the last 12 months, how many times have you hit or beat up someone?” In the present study, the Cronbach's alpha for Grade 10 was .77.

Data Analysis Plan

The four goals of this research were to examine the psychometric properties of a new measure of adolescents' fidelity, determine if different trajectories of fidelity development occurred across Grades 6–10, explore how contextual factors may influence these trajectories, and examine if different trajectories were associated with positive or problematic psychological and behavioral outcomes. To address the first goal, we used confirmatory factor analysis (CFA) to determine if the six individual items from the Fidelity measure fit a single latent factor. Model fit was examined using a number of fit indices (i.e., root-mean-square error of approximation [RMSEA], standardized root-mean-square residual [SRMR], and comparative fit index [CFI]). Acceptable model fit was determined by examining a combination of indices, such as RMSEA values below 0.08 and CFI values of 0.95 or higher (Hoyle & Panter 1995; Kline, 2005; Ullman, 1996). Then, to provide limited evidence of the construct validity of the Fidelity measure, we tested structural equation

models to examine relations between the Fidelity measure and other variables that are theoretically linked to it. Once evidence for the single factor was found, participants were given a composite score (average of the six items) for fidelity at Grades 6 through 10.

To address the second research question, we used latent class growth modeling (LCGM; Jones & Nagin, 2007; Jones, Nagin, & Roeder, 2001) to identify unique developmental trajectories of adolescents' fidelity across Grades 6–10. Growth models use all available observations on the dependent variable to estimate the growth curve model. Therefore, all participants were included if they had valid data on at least one time point. In this case, fidelity served as the dependent variable and time (i.e., Grades 6–10) served as the independent variable. Participants with complete data on fidelity for at least one time point were then estimated in the growth model and assigned to a group. For the current study, four statistical criteria were examined to determine the optimal number of group trajectories (Jones & Nagin, 2007): (a) the Bayesian information criterion (BIC; Jones et al., 2001; lower BIC indicates better fit); (b) the Akaike information criterion (AIC; lower AIC indicates better fit); (c) at least 5% of the sample contained in all trajectory groups (Nagin, 2005); and (d) the Lo–Mendell–Rubin likelihood ratio test of model fit (a p smaller than .05 indicates that an additional class significantly improves fit over a model with fewer classes; Lo, Mendell, & Rubin, 2001).

Third, we examined the influence of contextual factors (i.e., parenting practices, participation in OST programs, and the presence of adult supports) on the different fidelity trajectories using multinomial logistic regression models. Finally, we used path analysis to explore differences between adolescents' developmental trajectory group membership and Grade 10 psychosocial and behavioral outcomes. Path analysis allowed us to examine a partially recursive model in which the predictors (i.e., group membership, gender, and mother's education) are assumed to be directly related to adolescents' Grade 10 outcomes and to account for the shared variance between the outcomes. For example, we expected that adolescents' Grade 10 substance use would be correlated with their delinquency scores. Therefore, this analysis allowed us to examine the relations between trajectory group membership and outcomes when accounting for the relations between outcomes (Kline, 2005).

The issue of missing data is common in longitudinal research. Numerous factors affect an adolescent's ability to be present during one or multiple waves of data collection, including a school withdrawing from the study, the adolescent's lack of interest in participating at a particular time of data collection, or the adolescent's family moving (Little, Card, Preacher, & McConnell, 2009). Previous studies have often excluded participants with missing or incomplete data through methods such as listwise deletion. However, deleting these individuals can introduce bias into the study (Enders, 2010; Nagin, 2005) and, therefore, may increase the probability of an error in the research findings. Therefore, all analyses in the current study were conducted using Mplus Version 6.1 (B. O. Muthén & Muthén, 2010; L. K. Muthén & Muthén, 1998) and missing data were handled using full information maximum likelihood (Arbuckle, 1996).

Results

We have noted that we had four goals in this research: (a) to examine the psychometric properties of a new measure of adolescents' fidelity; (b) to determine if different trajectories of fidelity development occurred across Grades 6–10; (c) to explore how contextual factors may influence these trajectories; and (d) to examine if different trajectories were associated with positive or problematic psychological and behavioral outcomes. Before conducting the analyses associated with each goal, we conducted both univariate and multivariate tests for normality. The results of these preliminary analyses indicated that the data set met the assumptions for the analyses to be used in this study. The means and standard deviations of all items used in the analyses are reported in Table 1. Correlations of key variables are reported in Table 2.

In regard to the first goal of the study, validation of the fidelity measure occurred in several steps. In the first step, we used Mplus Version 6.1 (B. O. Muthén & Muthén, 2010; L. K. Muthén & Muthén, 1998) to conduct a CFA aimed at assessing the degree to which a latent factor of fidelity fit the data observed for Grade 6. Results suggested that the model was an acceptable fit to data, $\chi^2(9) = 236.91, p < .001$, RMSEA = .15, SRMR = .03, CFI = .95). The standardized factor loadings were all significant and ranged from .74 to .84. The modification indices suggested that the model should allow the standard errors of Items 2 and 3 to correlate. Both Item 2 and Item 3 index adolescents' "standing up" for their beliefs in spite of opposition (e.g., "even if my friends make fun of me," "even when it's unpopular to do"); therefore, we allowed the standard errors of these items to correlate. The CFA model allowing the standard errors of Items 2 and 3 to correlate improved model fit, $\chi^2(8) = 92.23, p < .001$, RMSEA = .09, SRMR = .03, CFI = .98. Although the RMSEA was above the .08 cutoff for acceptable fit, the other two fit indices (SRMR and CFI) were well within optimal level. The standardized factor loadings were all significant and ranged from .73 to .86. Pending further research comparing multiple alternative models, these findings suggest that a single latent factor does exist and is valid within the 4-H Study data set. Each item with its corresponding factor loading is reported in Table 3.

In order to attempt to provide further evidence about the validity of the fidelity measure, we tested a structural equation model examining the relationship between the fidelity measure and other theoretically related constructs (i.e., youth competence and identity). The model was specified by examining all relations at Grade 6 with competence predicting fidelity and identity, and correlating identity with fidelity. Results suggested that the model was a good fit to data, $\chi^2(18) = 76.702, p < .001$, RMSEA = .06, SRMR = .02, CFI = .98. The correlation between the latent factor of fidelity and identity was moderate (.27), suggesting that these constructs were correlated yet distinct from each other. In addition, youth self-reported competence significantly predicted both fidelity ($\beta = .27, p < .01$) and identity ($\beta = .44, p < .01$).

Trajectories of Fidelity Across Adolescence

In order to address the second research goal, we specified the model as one group with a zero order function (null model). Table 4 reports the fit indices for models with two, three, and four groups and the percentage of participants in the smallest group for each observed

outcome. Adding a fourth group did not improve model fit over the three-group solution based on the selection criteria (see Table 4). Furthermore, adding a fourth group created a trajectory that accounted for only 2% of the sample, which is well below the 5% cutoff as suggested by Jones and Nagin (2007). Therefore, we chose, on the basis of these criteria, to retain a three-group model.

From the graphical presentation of the three groups, it appeared that the groups followed a linear progression (see Figure 1). The first group (*high and increasing*) reported high fidelity scores across Grades 6–10. Both the intercept and slope of this group's trajectory were significant (intercept: $M = 4.39$, $p < .05$; slope: $\beta = .04$, $p < .05$). This developmental trajectory estimated the responses of 52% of the sample. The second group (*moderate and increasing*) increased in their commitment across Grades 6–10. Both the intercept and slope of this group's trajectory were significant (intercept: $M = 3.69$, $p < .05$; slope: $\beta = .04$, $p < .05$). This trajectory estimated the responses of 38.8% of the sample. The third group (*low and decreasing*) began lower in fidelity than the other two groups and then decreased in commitment yearly through Grade 10. Both the intercept and slope of this group's trajectory were significant (intercept: $M = 3.10$, $p < .05$; slope: $\beta = -.16$, $p < .05$). This trajectory estimated the responses of 9.2% of the sample. In addition, results indicated that the intercept of the high and increasing group was significantly higher than the intercept of the low and decreasing group at $p < .05$.

Early Influences on Youths' Fidelity Trajectories

The third goal of the present research was to test the idea that different types of developmental trajectories exist for adolescents' sense of fidelity across Grades 6–10. As such, three developmental trajectories for fidelity were found. In fact, results suggested that three types of developmental trajectories existed in the present data set (i.e., high and increasing, moderate and increasing, and low and decreasing). However, results also indicated that adolescents do not begin at the same starting point for fidelity in sixth grade. Therefore, pursuing the third research goal involved testing the hypothesis that parenting practices, participation in YD programs, and relationships with adult supports positively influence the probability of being in one trajectory group over another.

We used multinomial logistic regression analysis to predict adolescents' fidelity trajectory group membership using contextual factors at Grade 6. The multinomial logit analyses were conducted with maternal warmth, parental knowledge, parental involvement, participation in YD programs, and presence of adult mentors as joint predictors of fidelity group membership. The lowest group (i.e., low and decreasing) served as a reference group. Demographic variables were included as controls: gender and mother's education. In comparing the moderate and increasing group to the low and decreasing group, we found that adolescents in the moderate and increasing group reported higher levels of maternal warmth ($\beta < .27$, $p < .05$; odds ratio = 1.31). However, mother's education ($\beta = .03$, $p > .05$), participation in YD programs ($\beta = .18$, $p > .05$), parental involvement ($\beta = .28$, $p > .05$), parental knowledge ($\beta = -.18$, $p > .05$), and other adult supports ($\beta = .22$, $p > .05$) were not significant predictors in the model when accounting for maternal warmth.

In comparing the high and increasing group to the low and decreasing group, we found that girls were 2.31 times more likely than boys to be in the high and increasing group than in the low and decreasing group ($\beta = .84, p < .05$). A one-unit increase in maternal warmth increased the likelihood of being in the high and increasing group by 1.55 times, when the other variables in the model were held constant. An increase in parental knowledge and an increase in parental involvement increased the likelihood of being in the low and decreasing group by 1.71 and 1.93, respectively. Increasing the number of adult supports increased the likelihood of being in the high and increasing group by 1.54.

In sum, there were significant differences in trajectory groupings for fidelity based on adolescents' exposure to social relationships with adults. The results indicated that youth with adult mentors and youth with parents who exhibited high degrees of warmth, involvement, and knowledge were more likely to be members of the higher trajectory groups: they were more likely to be at the highest level of commitment to prosocial values. As well, the influence of gender was strong, such that girls were more likely than boys to be in the highest trajectories of fidelity. The third research goal was designed to build on Goals 1 and 2. As there were three types of developmental trajectories for adolescents' sense of fidelity (high and increasing, moderate and increasing, and low and decreasing), pursuing the third research goal involved examining the links between developmental trajectories and adolescents' later psychosocial and behavioral outcomes.

Adolescents' Outcomes at Grade 10 Associated With Fidelity Trajectories

To assess the differences by group membership on adolescents' Grade 10 outcomes, we used path analysis with the moderate and increasing group and the low and decreasing group entered as dummy predictor variables on outcomes of interest and controlling for demographic variables: gender and mother's education (see Table 5). Level of contribution differed by trajectory group membership, such that adolescents in the moderate and increasing group and the low and decreasing group reported significantly lower levels of contribution than the high and increasing group.

Regarding the demographic variables, girls reported higher levels of contribution than boys, and mother's education positively predicted levels of contribution. Adolescents in the moderate and increasing group and the low and decreasing group reported a significantly higher frequency of substance use than the high and increasing group. Mother's education negatively predicted adolescents' substance use. In addition, adolescents in the low and decreasing group reported significantly higher levels of delinquency than the high and increasing group. There were no differences between the moderate and increasing group and the high and increasing group on delinquency. Boys reported higher levels of delinquency than girls. Finally, there were no significant differences among the fidelity groups on depressive symptoms. However, girls reported higher levels of depressive symptoms than boys, and mother's education was negatively related to depressive symptoms.

Summary of Results

Using a new, psychometrically sound index of youth fidelity, we found three types of developmental trajectories for adolescents' sense of fidelity: high and increasing, moderate

and increasing, and low and decreasing. In addition, contextual factors were associated with the probability of being in different trajectories, meaning that boys were more likely to be in the lowest trajectory group and that youth reporting lower levels of maternal warmth had an increased probability of being in the lowest trajectory versus the middle trajectory. In addition, adolescents who reported higher levels of perceived maternal warmth, parental involvement, parental knowledge, and more adult supports were more likely to be in the highest trajectory for fidelity.

Finally, the results suggested that trajectory membership was linked to adolescents' contribution behaviors, risk behaviors, and substance use. Adolescents in the highest trajectory for fidelity reported higher levels of contribution behaviors, while adolescents in the lowest trajectory group reported the lowest levels of contribution and more frequent substance use and delinquent behaviors. Fidelity group membership was not related to adolescents' depressive symptoms.

Discussion

Fidelity, the virtue associated with adolescence, is defined as adolescents' abilities to maintain their beliefs in spite of opposition. At the heart of fidelity are concepts such as commitment, loyalty, justice, and duty (Erikson, 1962). Theoretical notions posit that the development of fidelity is linked to citizenship in adulthood and overall psychosocial well-being (Côté, 2009; Markstrom et al., 1998). However, no studies, that we are aware of, have examined the developmental course of this aspect of positive development, or how fidelity relates to theoretically proposed constructs. We have attempted to enhance this literature by examining a new measure of fidelity, assessing the developmental course of this aspect of psychosocial development in a longitudinal sample of adolescents, exploring contextual factors that are theoretically related to the development of fidelity, and testing the hypothesis that fidelity is linked to adolescents' positive development.

While one impetus to the present research was to provide heretofore unavailable longitudinal data about a still understudied facet of Erikson's (e.g., 1959, 1962) ideas about the role of the virtue of fidelity in positive ego development in adolescence, another impetus was to bring data to bear on Côté's (2009) suggestion that fidelity may not be a salient feature of positive development among some contemporary American youth. We found partial support for these theoretical assumptions. The majority of youth in the present study were developing a sense of fidelity, although it varied in its level of importance. Only a small percentage of youth were declining in their commitment across adolescence. Although we believe that it is necessary to be cautious about generalizing to all American youth the findings from the sample participating in the 4-H Study of PYD, we believe that our data do allow us to forward the view that fidelity is a characteristic of positive youth development present among many American youth. While our data allow us to estimate the proportion of youth people increasing and decreasing in their commitment, the nature of the current study does not allow us to say what prevents some youth from developing a sense of fidelity. Additional research will be useful in identifying whether youth who fail to develop a sense of fidelity struggle because they embrace fluid identities (Côté, 2009) or because of some other reason, such as perceived barriers and experiences with institutional racism and

discrimination (e.g., Fisher, Wallace, & Fenton, 2000; Williams, Neighbors, & Jackson, 2003). Therefore, further research is needed to investigate how youth develop a sense of fidelity, what other individual and contextual factors promote growth in this aspect of psychosocial development, and what deters development of fidelity.

In addition, we would also posit that fidelity, as part of the relational developmental system linking a young person with his or her ecology (Overton, 2010; Overton & Mueller, in press), can be fostered through contextual supports, some of which were examined in the present study. However, because the current study is among one of the first investigations to examine the longitudinal course of adolescents' fidelity, and because of the limitations of the 4-H Study sample, before any final conclusions are drawn about the developmental process involved in linking fidelity to contextual and individual antecedents and outcomes, further research is needed on youth varying in racial/ethnic background, socioeconomic status, and other social contexts, for example, regarding schools and neighborhoods.

In the present study, we found that three different developmental trajectories of fidelity existed across adolescents in Grades 6-10 of the 4-H Study. The highest trajectory group, also represented by the largest number of study participants, exhibited high levels of commitment to their values and remained consistently high through the 10th grade. The second group is what researchers typically find when looking at mean-level associations between age and identity development, for example, a group exhibiting moderate scores and development that is linearly increasing across adolescence. Finally, a third group of adolescents exhibited lower levels of fidelity than the other two groups and decreased in their fidelity scores through 10th grade. There is no certain way of knowing if these adolescents' fidelity would continue to change through the end of adolescence and into the beginning of young adulthood, given that we only examined trajectories from Grade 6 to Grade 10. However, based on the relative stability of the trajectory groups identified in the present research, one could hypothesize that there would not be dramatic changes within or across groups. As data from Grades 11 and 12 of the 4-H Study become available, tests should be made of this hypothesis.

The approach taken by Markstrom and colleagues (e.g., Markstrom & Hunter, 1999; Markstrom & Kalmanir, 2001) to assess fidelity involved examining the presence of this virtue at the end of adolescence and at one time point. Fidelity was not examined as part of a developmental process. Erikson's (1959) theory of ego development across the life cycle stressed that ego strengths exist within all developmental stages and that the ego strengths reach ascendance with positive resolution of the associated psychosocial crisis. In other words, fidelity may be present in infancy but does not become prominent until adolescence when the identity crisis begins. Therefore, it is theoretically reasonable to measure fidelity earlier as well as later in adolescence. A contribution of the current study is that we found change in fidelity development over time. Adolescents began at different intercept points (i.e., sixth grade), and the course of development varied for different groups of adolescents across this developmental period. Of course, because the results of our analysis of fidelity development and, more specifically, the three trajectories we identified may be dependent on the sample we studied, it may be the case that the 4-H Study youth we assessed had not yet reached ascendance of fidelity. If so, then, further growth on this psychosocial construct

might be expected. Therefore, it would benefit future studies to extend the results of the present research to the end of adolescence and into adulthood to provide further support for these assumptions.

In the current study, key social relationships were related to trajectory group membership. As expected, positive parenting practices and presence of adult supports significantly increased adolescents' probability of being in the highest levels of fidelity. We expected that moderate levels of parenting would positively influence the course of adolescents' fidelity development, low levels of parental involvement and knowledge would negatively affect fidelity, and high levels of parental involvement and knowledge would restrict adolescents' self-exploration process. However, the results of the present study indicated that differences between the high and increasing group and the moderate and increasing group involved higher levels of maternal warmth, parental involvement, and parental knowledge. One explanation for this finding may be that the influence of parenting practices on fidelity trajectory group membership was assessed at the onset of adolescence (i.e., Grade 6). Previous research has suggested that parents still play a prominent role in adolescence. However, the nature of the parent-child relationships may shift (Laursen & Collins, 2009). For example, a high level of parental involvement may not hinder early adolescents' identity exploration in the same way that it could in older adolescents who may be seeking autonomy. A second explanation is that the items used to index parenting practices in the current study, which examine activities such as monitoring of homework and knowing the adolescent's friends, may not capture harsh parenting practices that are known to hinder self-exploration and autonomy development (e.g., Supple, Ghazarian, Frabutt, Plunkett, & Sands, 2006).

Given the extensive research supporting the idea that OST activities, particularly when they include YD program participation, are linked to PYD (e.g., Mahoney et al., 2009), it was surprising that participation in OST activities at Grade 6 was not predictive of trajectory group membership, especially because prior research has found that YD programs support adolescents' identity exploration and reflection processes. For example, a study by Hansen, Larson, and Dworkin (2003) found that participation in youth activities was related to increased identity work in the form of higher levels of self-exploration and reflection. In addition, the authors found that participation in youth activities was positively associated with increased interpersonal and personal development. Furthermore, Deutsch (2005) posited that adolescents' experiences in YD programs enhance prosocial beliefs by providing youth with opportunities to interact with adults and peers, practice prosocial norms, and foster supportive relationships.

The results of the present study provide only some support for these findings. One explanation for this incomplete support is due to another limitation of the current research involving the measurement of participation in youth development programs. The current research examined whether a young person had participated in a YD program. However, there is a wide array of types of programs that young people can participate in, ranging from sports activities to community-based programs (Peck, Roeser, Zarrett, & Eccles, 2008). In addition, a study by Zarrett et al. (2009) suggested that youth are often engaged in more than one activity at any given time. Therefore, it may be difficult to attribute the positive effects

on identity development to any one type of program without conducting a focused evaluation of this type of OST activity (an empirical assessment clearly beyond the purposes of the present research). Furthermore, the current study did not assess the degree to which adolescents were engaged in YD programs. For example, a study by Dawes and Larson (2011) found that in order for youth to benefit from YD programs, it is important for them to not just attend but to psychologically engage in programs, and the process through which youth become engaged is a dynamic process. Therefore, it would benefit future research to examine how fidelity may be a part of the engagement process.

A second explanation for this finding may be that YD programs connect young people to caring adults outside the family. It may be that connection to adults, and not necessarily the participation in a program per se, influences adolescents' ability to engage in acts of self-exploration and commitment to a particular set of values. Studies by Gambone and Connell (2004) and Theokas and Lerner (2006) have emphasized that strong social relationships with adults are key components of adolescents' positive development. The potential for adolescents' productive values and behaviors exists through the influence of such relationships with adults. Given that a major component of fidelity is the intention to commit to others in a positive way, future research should examine the effects of adults in YD programs on adolescents' fidelity development. For example, what aspects of a program specifically may foster youths' commitment to people and institutions? Are adult supports the most important aspect of a program, and, if so, should resources be spent developing relationships between youth and adults in the program?

In this study, prominent gender differences were found in adolescents' trajectory group membership, such that girls were more likely than boys to be in the highest levels of fidelity and boys were more likely than girls to be in the low and decreasing group than the two highest groups. One explanation for this finding is that the notion of fidelity, as measured in the present study, is related to prosocial values. A study by Jelenc et al. (2007) found that girls were more likely to report higher levels of contribution than boys. The greater contribution of girls may reflect that girls are socialized to be more caring and nurturing and to exhibit higher levels of concern for others (Eisenberg, Morris, McDaniell, & Spinrad, 2009). However, to address such possibilities future studies should explore gender differences in fidelity–contribution associations.

Regarding the fourth research question, which examined the associations between developmental trajectories of fidelity and later psychosocial and behavioral outcomes, the results of this study indicated that trajectory group membership was related to later developmental outcomes at Grade 10. Our hypothesis that adolescents in the highest fidelity trajectory would have better psychosocial and behavioral outcomes was partially supported. Erikson proposed that citizenship emerged from an individual's intention to express loyalty to others and to social institutions. Therefore, this study lends some support to Erikson's ideas. An important facet of people developing fidelity is that they are able to express acts of contribution to society, such as giving back to one's family, school, and community. Furthermore, higher fidelity was negatively related to risky and problem behaviors.

An additional noteworthy finding was that trajectory groups did not vary on levels of depressive symptoms. It could be that prosocially oriented youth would be expected to report positive socially acceptable responses on all items (e.g., responding high on positive items and low on negative items). On the contrary, we found that youth in all three groups reported similar levels of depressive symptoms. We believe this finding may diminish concerns about social desirability being a key basis of responses in the current study.

While this study is helpful in extending the literature on fidelity, there is still much work that needs to be done on the emergence of this psychosocial construct and on ego strengths in general. Although we have described many of the benefits of the present research, we have pointed as well to several of its limitations. We may note these other limitations. For example, it is necessary for subsequent research to examine the association between our new measure of fidelity and the fidelity measure developed by Markstrom and colleagues to further clarify how our measure relates to the extant literature on fidelity. It may be that the measures index different aspects of the same construct. In addition, examining our measure of fidelity in relation to this other fidelity measure, as well as examining both measures in other populations, will allow us to better understand how this aspect of human development relates to psychosocial functioning, such as the resolution of the identity crisis.

Another important limitation to consider is the issue of measurement time. There is evidence to suggest that the process of identity formation is one that may fluctuate from month to month, day to day, or even hour to hour, depending on the experiences that a person encounters that may shape the self-exploration process. Some studies have suggested that adolescents' self-evaluations are best assessed through the diary method, which captures adolescents' daily life experiences (e.g., Kiang, Yip, Gonzales-Backen, Witkow, & Fuligni, 2006; Klimstra et al., 2010; Yip & Fuligni, 2002). Given that the current study used an annual survey to assess large groups of youth, it would be useful if future research considered how to divide measurements in time between data collections in regard to theoretical ideas about the meaningful changes involved across adolescence in the process of fidelity development (Lerner, Schwartz, & Phelps, 2009). Moreover, the replication of this study among different racial, ethnic, socioeconomic, and geographic populations would contribute to extant knowledge about the way fidelity emerges from adolescence. Here, smaller samples of youth studied with intensive measurement designs and perhaps more molecular measures of individual and ecological antecedents and outcomes would be useful (Nesselroade & Molenaar, 2010). Accordingly—in recognition of the levels of organization integrated within the relational developmental system—individual measures of biological changes (e.g., related to puberty) and of the peer, family, and mentor relations with which youth are involved may be useful to have as prominent measures in future research about the fidelity development process.

Indeed, another limitation of the current study was that the number of adults supports that youth were able to identify was related to youth fidelity group membership; however, this variable was not able to capture the degree to which these individuals provide support to youth social networks or the nature of the relationships each child has with the adults in his or her life. Therefore, it may be useful for future research to examine the nature of adult–youth relationships outside the family in relation to youth fidelity development, especially

given that fidelity is expressed through loyalty in relation to social groups (e.g., Markstrom et al., 1994).

Conclusions

This research furthers our understanding of the development of the virtue of fidelity within adolescence. By examining trajectories of fidelity and by embedding the pathways within the relational developmental system, the present research points to the usefulness of studying fidelity as part of an individual–context developmental process. This approach gives us an enhanced lens to consider the innovative ideas of Erikson (e.g., 1962) about the important role of fidelity in adolescents' healthy psychosocial development.

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Figure 1.

Developmental trajectories of adolescents' fidelity across Grades 6–10.

Table 1
Means and Standard Deviations for Variables in the Longitudinal Sample of the 4-H Study

Variable	Grade 6 <i>n</i> = 1,133		Grade 7 <i>n</i> = 1,477		Grade 8 <i>n</i> = 1,223		Grade 9 <i>n</i> = 844		Grade 10 <i>n</i> = 693	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Fidelity	3.95	0.87	4.05	0.76	4.02	0.76	4.04	0.76	4.15	0.75
Maternal warmth	2.89	1.05	2.85	0.99	2.68	1.02	2.62	1.04	2.71	1.03
Parental involvement	3.40	0.81	3.11	0.86	2.19	0.70	2.25	0.70	2.43	0.94
Parental knowledge	3.44	0.66	3.34	0.73	3.21	0.78	3.07	0.84	3.19	0.74
Adult mentors	1.47	0.88	2.82	0.85	2.74	0.85	2.69	0.84	2.77	0.81
Contribution	4.33	1.34	4.41	1.37	4.60	1.11	4.32	1.27	4.55	1.37
Delinquency	0.92	1.95	1.28	2.69	1.56	3.05	1.47	3.03	1.29	2.62
Depressive symptoms	12.59	9.04	13.14	9.58	13.68	9.62	14.41	10.46	12.43	9.22
Substance use	0.52	1.18	0.79	2.17	1.17	2.83	1.65	3.21	2.69	1.47

Table 2

Interscale Correlations of Variables Included in Model Testing

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Grade 6 competence	—														
2. Grade 6 identity	.44**	—													
3. Grade 6 fidelity	.25**	.33**	—												
4. Grade 7 fidelity	.22**	.24**	.40**	—											
5. Grade 8 fidelity	.15**	.18**	.33**	.51**	—										
6. Grade 9 fidelity	.21**	.30**	.39**	.43**	.53**	—									
7. Grade 10 fidelity	.20**	.17**	.43**	.42**	.52**	.59**	—								
8. Grade 6 parental involvement	.24**	.30**	.35**	.24**	.12**	.22**	.19**	—							
9. Grade 6 parental monitoring	.30**	.31**	.42**	.27**	.29**	.23**	.18**	.47**	—						
10. Grade 6 maternal warmth	.31**	.34**	.40**	.29**	.19**	.23**	.23**	.55**	.50**	—					
11. Grade 6 adult mentors	.37**	.27**	.35**	.19**	.19**	.28**	.16**	.30**	.33**	.32**	—				
12. Grade 10 contribution	.26**	.26**	.36**	.33**	.41**	.36**	.47**	.16**	.18**	.20**	.31**	—			
13. Grade 10 depressive symptoms	-.16**	-.16**	-.05	-.08	-.05	-.05	-.06	-.01*	-.09	-.08**	-.05	-.19**	—		
14. Grade 10 substance use	-.13**	-.15**	-.17**	-.32**	-.27**	-.29**	-.21**	-.05	-.07	-.06	-.19**	-.20**	.18**	—	
15. Grade 10 delinquency	-.17**	-.16**	-.31**	-.19**	-.22**	-.24**	-.22**	-.13*	-.28*	-.19**	-.16**	-.22**	.09*	.48**	—

*
 $p < .05$.**
 $p < .01$.

Table 3

Factor Loadings From Confirmatory Factor Analysis

Items	Factor loadings
1. Speaking up for equality (everyone should have the same rights and opportunities).	.73
2. Doing what I believe is right even if my friends make fun of me.	.75
3. Standing up for what I believe is right, even when it's unpopular to do.	.76
4. Telling the truth, even when it's not easy.	.82
5. Accepting responsibility for my actions when I make a mistake or get in trouble.	.86
6. Doing my best even when I have a job I don't like.	.80

Table 4

Fit Indices and Model Comparisons for Estimated Latent Class Growth Models

Model	Growth models	Log likelihood	BIC	AIC	Comparison group	Smallest group percentage (%)
1	One group	-6314.88	12682.76	12643.76	—	100.0
2	Two groups*	-5867.34	11810.39	11754.68	1	21.0
3	Three groups*	-5765.77	11629.95	11557.53	2	9.2
4	Four groups	-5728.26	11577.66	11488.53	3	2.0

Note. BIC = Bayesian information criterion; AIC = Akaike information criterion.

* Indicates significant Lo-Mendell-Rubin likelihood ratio test at $p < .05$.

Table 5
Standardized Parameter Estimates for Path Model Including Fidelity Group Membership Predicting Adolescents' Grade 10 Outcomes

Predictor	Contribution		Depressive symptoms		Substance use		Delinquency	
	β	SE	β	SE	β	SE	β	SE
Gender	.13**	.04	.14**	.05	-.08	.05	-.19**	.05
Mother's education	.16**	.04	-.09*	.05	-.12**	.04	-.05	.04
Moderate and increasing group	-.33**	.04	.05	.05	.14**	.05	.10*	.05
Low and decreasing group	-.37**	.04	.06	.06	.26**	.04	.21**	.04

Note. Gender and mother's education were controlled.

SE = standard error.

* $p < .05$.

** $p < .01$.