SECONDARY SCHOOL ADVISORS AS MENTORS AND SECONDARY ATTACHMENT FIGURES

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The teacher-student relationship is vital to student outcomes in secondary school. Unfortunately, the transition from elementary to secondary school is associated with a decrease in the quality or supportiveness of this relationship. In response, some secondary schools implement advisory programs, in which a teacher/advisor meets periodically with a small group of students over an extended period. This study examined whether students (N = 209) in two small secondary schools would nominate the advisor as part of their attachment hierarchy. Our results indicated that 40% of the sample considered their advisor to be a secondary attachment figure; further, those that did nominate their advisor reported greater engagement in school and demonstrated greater gains in achievement and adjustment compared to those who did not. A relationship assessment instrument from the attachment literature (RSQ) was found to be more efficacious at predicting student outcomes when compared to instruments used in previous mentoring and relationship research. © 2010 Wiley Periodicals, Inc.

The teacher-student relationship plays a significant role in student performance in secondary school. An extensive literature demonstrates that supportive teacher-student relationships can enhance student motivation, engagement, prosocial behavior, and academic achievement (Roeser & Eccles, 1998; Roeser, Eccles, & Sameroff, 1998; Wentzel, 1997, 1998), whereas less supportive teacher-student relationships can reduce student interest in learning (Midgley, Feldlaufer, & Eccles, 1989). From a mental health perspective, supportive teacher-student relationships are associated with lower levels of anger and depressive symptoms in school as well as enhanced adjustment and self-esteem (Dubow, Tisak, Causey, Hryshko, & Reid, 1991; Eccles, Early, Frasier, Belansky, & McCarthy, 1997; Reddy, Rhodes, & Mulhall, 2003; Roeser &

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Eccles, 1998; Roeser et al., 1998). Positive teacher–student relationships can be particularly beneficial for youth exposed to multiple family- and/or community-based risk factors (Dubow et al., 1991; Smokowski, Reynolds, & Bezruczko, 1999). For such students, supportive adults outside the core family unit can be an especially important source of protection and validation (Masten, Best, & Garmezy, 1990) because many have less-than-ideal relationships with primary caregivers.

Unfortunately, the transition from elementary to secondary school is generally associated with a decrease in the quality or supportiveness of the teacher–student relationship. This is due in large part to the altered nature of the teacher–student interaction, which includes less one-on-one time, more whole-class instruction, and a greater emphasis on performance rather than effort (Eccles, Midgley, & Adler, 1984; Eccles et al., 1993; Feldlaufer, Midgley, & Eccles, 1988; Lynch & Cicchetti, 1997).

To enhance teacher-student relationships, some secondary schools have implemented advisory programs, in which a teacher/advisor meets periodically with a small group of students (i.e., 10-18) over an extended period of time (Galassi, Gulledge, & Cox, 1997; Poliner & Lieber, 2004). In these programs, the advisor becomes a permanent part of a student's school experience and the relationship can last for several years. Advisor and advisee generally meet both one-on-one and in a group setting (i.e., all students in the advisory group), and meetings generally take place anywhere from once a week to one or more times a day. Gallassi and colleagues (1997) differentiate among a number of different types of advisory programs, but in advocacy programs, which are the focus of this article, the agenda for the advisory meetings includes personal as well as academic issues, enabling the advisor and student to become better acquainted with one another over time. Indeed, one of the chief goals of an advocacy-based advisory program is to promote close, trusting relationships between teachers and students, and the research on these programs emphasizes their ability to encourage relationships that are not only close, but long in duration (Gallassi et al., 1997). In addition to close relationships, these programs can promote more positive behavioral, social, and academic outcomes for students (Gallassi et al., 1997).

Rappaport (2002) discusses advisory programs as part of the larger framework of youth mentoring. Following this lead, the extant research on mentoring can be used to inform the study of advisor–student relationships in secondary schools. A closer look at the youth mentoring literature suggests several new hypotheses that promise to extend the current research on both school-based advisory programs and mentoring in general.

YOUTH MENTORING

In mentoring relationships, nonparental adults (mentors) and adolescents (protégés) meet periodically for an extended period (Rhodes, Grossman, & Roffman, 2002). Hamilton and Hamilton (2004) distinguish between instrumental mentoring, which generally occurs in a workplace setting or a "natural mentoring" situation, and psychosocial mentoring, which is emphasized in more formal mentoring programs, such as Big Brothers/Big Sisters (for a discussion of Big Brothers/Big Sisters, see Center for Substance Abuse Prevention, 2000). In psychosocial mentoring, the emphasis is on the development of close, supportive relationships with youth who may not have such relationships with adults at home (DuBois, Neville, Parra, & Pugh-Lilly, 2002). The building of a close mentor–protégé relationship is seen as the most proximal goal in psychosocial mentoring programs, and the strength of this

relationship enables the mentor to effectively promote more distal, instrumental goals, such as academic achievement (Karcher, Kuperminc, Portwood, Sipe, & Taylor, 2006). Research has demonstrated that psychosocial mentoring programs can promote modest, but significant positive enhancements to adolescent behavior and adjustment, including higher levels of academic achievement, reductions in substance abuse and aggressive behavior, increases in self-worth, and improved parental and peer relationships (Grossman & Tierney, 1998; Karcher, Davis, & Powell, 2002; LoSciuto, Rajala, Townsend, & Taylor, 1996; McPartland & Nettles, 1991; Rhodes, Grossman, & Resch, 2000; Rhodes, Haight, & Briggs, 1999; Rhodes, Reddy, & Grossman, 2005; Tierney, Grossman, & Resch, 1995). In a meta-analysis of mentoring research, DuBois, Holloway, Valentine, and Cooper (2002) concluded that "favorable effects of mentoring programs are...apparent across youth varying in demographic and background characteristics such as age, gender, race/ethnicity, and family structure and across differing types of outcomes" (p. 186), including emotional and behavioral functioning, social competence, and academic achievement.

The most successful psychosocial mentoring relationships (i.e., those that promote the most positive outcomes for adolescents) are those that last longer than one year, have a high frequency of contact, and are emotionally close (DuBois & Neville, 1997; Grossman & Rhodes, 2002; Parra, DuBois, Neville, Pugh-Lilly, & Povinelli, 2002; Rhodes et al., 2005). In their meta-analysis, DuBois and colleagues (2002) concluded that program effects were stronger for those youth who had relationships of "greater intensity or quality" (p. 186); effect sizes for such youth were nearly double the effect sizes for youth with lower-intensity mentor–protégé relationships.

MENTORING AND ATTACHMENT THEORY

One of the most intriguing aspects of mentoring research in recent years is the theoretical link that has been drawn between mentoring and attachment theory (Rhodes et al., 2000; Rhodes, Spencer, Keller, Liang, & Noam, 2006). Attachment theory posits that a child's early experiences with a caregiver influence beliefs and expectations about the availability and responsiveness of significant others (Bowlby, 1969, 1982). Over time, these experiences guide the development of an internal representation of self and other (i.e., a "working model"), which serves as the prototype for other close relationships (Ainsworth, 1989; Bretherton, 2005). Secure attachments ordinarily occur when children have experienced relationships with caregivers that are warm and responsive, whereas insecure attachments are commonly associated with experiences in which the caregiver is rejecting, neglecting, or inconsistent.

The primary purpose of an attachment relationship is to engender a sense of felt security, with the caregiver acting as a secure base and safe haven. From this secure base, an infant can confidently explore his or her surroundings, take risks, and develop competencies. When under threat, the infant will retreat to the safe haven of the caregiver, who can alleviate distress and reestablish a sense of felt security. When the threat has subsided, the infant can begin to explore again (Bowlby, 1969, 1982).

Working models of attachment can influence individual behavior in relationships throughout the lifespan (Sampson, Carlson, Van Ryzin, & Sroufe, 2009; Simpson, Collins, Tran, & Haydon, 2007; Van Ryzin, Carlson, & Sroufe, 2009). For example, young children who are securely attached to their caregiver are more popular with peers than insecurely attached children (Howes, Matheson, & Hamilton, 1994). In

adolescence, individuals with secure attachment to caregivers report more positive interpersonal relationships (Larose & Bernier, 2001). In adulthood, representations of childhood experiences with caregivers (or attachment "state of mind") have been linked to qualities of romantic and marital relationships, including communication, trust, and satisfaction (Kobak & Hazan, 1991; Roisman, Madsen, Henninghausen, Sroufe, & Collins, 2001).

School-Based Advisors as Secondary Attachment Figures

When it comes to linking mentoring and attachment, Rhodes and colleagues (2006) speculate that "mentors may function as alternative or secondary attachment figures" (p. 693). This is especially true in adolescence, when cognitive abilities like abstract reasoning and perspective-taking come online and youth attempt to gain autonomy from parental influence by exploring alternative sources of security and support, such as peers and romantic partners (Allen & Land, 1999; Steinberg, 1990). Although no research exists to support the classification of the mentor as a secondary attachment figure, a number of related fields have examined the ability of nonparental adults to act as significant providers of attachment-related safety and security. For example, in studies of transformational leadership, secure leaders were found to be more effective at engendering a sense of security, encouraging higher levels of socioemotional functioning and promoting long-term mental health among followers (Davidovitz, Mikulincer, Shaver, Izsak, & Popper, 2007). Zegers and colleagues (2006) found that secure adults involved in a therapeutic relationship with an adolescent were more likely to be perceived as a secure base, and Bernier and Dozier (2002), in a review of the counseling literature, suggest that therapists may vary in their ability to provide the attachment-related security that is necessary for a successful counseling relationship. Indeed, Ainsworth (1989) discusses the ability of nonparental adult figures such as mentors to be "parental surrogates" (p. 711) and play an important role in the lives of non-kin children and youth. Thus, theory and research in the field suggests that the hypothesis put forward by Rhodes and colleagues (2006) is not untenable. The main goal of this article is to evaluate this hypothesis in the context of advisor-student relationships; in other words, this study will empirically evaluate whether advisors (and by extension, mentors or other significant nonparental adult figures) can be considered secondary attachment figures for adolescents.

Assessing the Impact of Advisor-Student Relationships

An additional question of interest is to evaluate whether an advisor's status as a secondary attachment figure can differentiate among those students for whom the relationship is beneficial and those for whom it is not. Mentoring research has long pointed to the wide variance in outcomes for mentoring relationships, with some students benefitting strongly and others receiving little or no benefit (DuBois, Holloway, Valentine, Cooper, 2002; Tierney et al., 1995). The literature has also identified "closeness" and "duration" as key differentiating factors, though the findings are sometimes mixed (DuBois, Holloway, Valentine, Cooper, 2002; DuBois & Neville, 1997; Grossman & Rhodes, 2002; Parra et al., 2002). As intuitively appealing as these factors may be, they are not strongly grounded in relationship theory (indeed, relationship duration is often explicitly ignored, and subjective "closeness" has a spotty record as a predictor of relationship outcomes; see Berscheid, Snyder, & Omoto, 1989, 2004). In addition, these factors do not necessarily provide insight into the mentoring process nor

provide strong guidance for the development of mentor screening and training programs. On the other hand, if attachment theory is, in fact, a useful framework from which to view the advisor–student (and mentor–protégé) relationship, then the vast literature on attachment relationships could be mined as a fertile source for both mentoring theory and program development. Thus, assuming that the advisor is a secondary attachment figure for some (but not all) students, an additional goal here is to determine whether the ability of the advisor to attain the status of secondary attachment figure will differentiate among successful and unsuccessful relationships. The two groups of students (i.e., those students who do vs. do not consider their advisor to be a secondary attachment figure) will be compared to determine whether group differences exist in terms of student engagement in school, academic achievement, and psychological adjustment.

When examining group differences, two additional outcomes will be included along with engagement, achievement, and adjustment; student perceptions of advisor and peer supportiveness will also be examined. Prior research has linked parental supportiveness with security in attachment relationships in adolescence (Allen & Hauser, 1996; Allen et al., 2003), and this factor will be evaluated in the context of advisor–student relationships. If group differences are found, then this may suggest that supportiveness is related to security in advisor–student relationships. To ensure that an overall "adjustment" factor is not in fact being captured, student perceptions of peer supportiveness are also included. No research exists suggesting a link between peer supportiveness and security in attachment relationships, so no group differences should be found.

When measuring "closeness" in the mentor-protégé relationship, the mentoring literature often uses a single-item subjective rating (e.g., Parra et al., 2002), which is similar to extant measures such as the Subjective Closeness Index (SCI; Berscheid et al., 1989, 2004) and the Inclusion of Other in Self Scale (IOS; Aron, Aron, & Smollan, 1992), which are part of the social psychology literature. This literature also provides more complex assessments of relationships, such as the Relationship Closeness Inventory (RCI), which includes a consideration of the amount of time spent together, the diversity of activities under which the contact takes place, and the degree of influence of the other member of the dyad (Berscheid et al., 1989, 2004). Given the emphasis in attachment theory on a sense of felt security, however, it may be more useful to assess the advisor-student relationship in terms of the degree of security felt by the student; previous research has used this approach in assessing the advisor-student relationship in a college environment (Soucy & Larose, 2000). In this study, we assess felt security in the advisor-student relationship using the Relationships Structure Questionnaire (RSQ; Fraley, Niedenthal, Marks, Brumbaugh, & Vicary, 2006). The RSQ was designed to assess relationship security with a variety of interpersonal targets according to two dimensions: anxiety and avoidance. According to this framework, a more secure relationship is distinguished by lower levels of both anxiety and avoidance. An individual who is more avoidant in a relationship is less likely to open up and less willing to rely on the other, whereas an individual who is more anxious in a relationship is more concerned with being abandoned and worries whether the other person really cares. The dimensional aspect of this measure provides the advantage of assessing a relationship according to a continuous rather than a categorical scale, which provides greater statistical power (Fraley & Waller, 1998). In addition, the broader attachment literature can assist in the development of specific hypotheses about the advisor-student relationship. For example, the link between attachment avoidance and lower levels of motivation (Elliot & Reis, 2003) suggests that avoidance in the advisor–student relationship will be related to lower levels of engagement in school and inferior academic achievement. The link between attachment anxiety and maladjustment (Cooper, Shaver, & Collins, 1998; Shaver & Clark, 1994) suggests that anxiety in the advisor–student relationship will be related to poorer adjustment in school. Thus, my third goal in this article is to evaluate different methods for assessing the strength or quality of the advisor–student relationship; if attachment theory is indeed a useful framework from which to view advisor–student (and, by extension, mentor–protégé) relationships, then a direct assessment of the security of the relationship may be the most theoretically consistent and powerful predictor of adolescent outcomes.

In sum, this study has three goals:

- 1. Evaluate whether the advisor can be a secondary attachment figure for students.
- 2. Examine group differences between those students that do consider the advisor to be a secondary attachment figure and those that do not.
- 3. Compare several different methods for assessing the advisor–student relationship in terms of their ability to predict student outcomes such as engagement, achievement, and adjustment.

With regard to these goals, several hypotheses can be proffered. First, given that attachment theory acknowledges the possibility of nonparental attachment figures in adolescence, I hypothesize that some, but not all, of the students in this sample will nominate their advisor as part of their attachment hierarchy. Second, Mikulincer and Shaver (2003) have proposed a "broaden-and-build" cycle of attachment security, in which the feeling of security with an attachment figure brings about increased selfconfidence and more exploratory behavior, which can result in higher levels of competence and skill acquisition. In later research, they found that experimentally induced feelings of attachment security promoted mental health (Mikulincer & Shaver, 2007a). Thus, I hypothesize that those students who nominate their advisor as a secondary attachment figure will experience more success in the educational context in terms of engagement, achievement, and adjustment. In addition, given the extant literature on supportiveness in parental relationships (Allen & Hauser, 1996; Allen et al., 2003), I hypothesize that those students who nominate their advisor as a secondary attachment figure will perceive higher levels of advisor supportiveness, while there should be no group differences in perceptions of peer supportiveness. Third, given the salience of felt security to exploratory behavior in the educational context (Cooper et al., 1998; Elliot & Reis, 2003; Shaver & Clark, 1994), I hypothesize that the RSQ will serve as the best predictor of student outcomes, with avoidance predicting engagement/achievement and anxiety predicting adjustment.

METHOD

Participants

This study included 209 students at two small secondary schools that use an advisory system; the participating students represented about 80% of the total population. In these schools, the advisor works directly with each student in their advisory group on a daily basis to define learning goals and desired outcomes, to act as a resource when

students encounter academic or personal difficulties, and to support and encourage student efforts. Students spend a great deal of time with their advisor during the course of the school year and the advisor–student relationship often extends over multiple years. In the course of an average week, a student and advisor may spend anywhere from a few minutes up to several hours per day working directly together. Overall, it is reasonable to classify the advisory program in these schools as an "advocacy" model according to the taxonomy proposed by Gallassi and colleagues (1997). Further, the amount of one-to-one contact and the extended timeframe for the advisor–student relationship suggests that the opportunity may exist for psychosocial mentoring to occur.

Teachers in the schools involved in this study received a small amount of additional training before beginning their work as advisors. This training consisted of written resources that help in organizing advisory time (e.g., Poliner & Lieber, 2004), as well as coaching from experienced advisors. In general, advisors are trained to develop relationships as well as track academic progress, to serve as a source of support and encouragement, to give equal time to each student, and to seek out those students that do not naturally come forward.

The sample of students was 46.1% female and 77.5% White (the rest being mainly Asian and racially mixed students). The average age was 15.4 years (SD = 1.83) and 20.1% were eligible for free or reduced-price lunch. The students had spent an average of 1.72 years in the school (SD = 1.28) and on average had worked with the same advisor for the last 1.21 years (SD = .81). The amount of time working with an advisor ranged from as little as a few months to as much as 5 years. Overall, 64.1% of students had spent at least one year with their current advisor. The advisor–student ratio at both schools was approximately 12 to 1.

Research Design

Data were gathered at three different time points under the supervision of trained facilitators. Student engagement, adjustment, and perceived support data were gathered via an Internet-based application at either Time 1a (the spring of 2007) or Time 1b (the fall of 2007) as well as at Time 2 (the spring of 2008); advisor–student relationship data were gathered via pencil-and-paper surveys a few weeks after Time 2 (see below for a discussion of the specific measures). Students in school in the spring of 2007 (N = 148) were surveyed at Time 1a; students who started in the school in the fall of 2007 (N = 61) were surveyed at Time 1b. All students who participated at either Time 1a or 1b were asked to participate at Time 2.

When comparing data across the two schools, there were no school-level differences in any outcome measure, and no heterogeneity of variance (all Fs < 2.5, ns). Further, there were no school-level differences in gender, $\chi^2(1) = .02$, ns; there were, however, school differences in race, $\chi^2(1) = 8.95$, p < .01; 88% vs. 70% White, and eligibility for free or reduced-price lunch, $\chi^2(1) = 4.02$, p < .05; 25% vs. 14% eligible. Thus, data from the two schools will be combined in all analyses, but student demographics will be controlled to minimize any bias.

When analyzing change over time, no significant differences were found when comparing achievement and adjustment data from Time 1a and Time 1b (Fs < 1.0, ns); thus, these data were combined to serve as a single baseline measure hereto after referred to as Time 1. When evaluating student outcomes, adjustment and achievement were considered to be cumulative variables and thus examined in terms

of change across time (i.e., Time 1 to Time 2); all other variables were examined in terms of group differences at Time 2.

All data were gathered using a random identification scheme to protect student confidentiality, and no student names were transmitted outside the school walls. Cronbach's alpha was used to measure internal reliability for all measures.

Measures

Attachment network. This construct was measured at Time 2 using the Attachment Network Questionnaire (ANQ; Trinke & Bartholomew, 1997). The ANQ asks students to nominate the person or persons (e.g., mother, best friend, etc.) that play(s) the following attachment-related roles: (1) a safe haven to relieve stress in difficult situations, (2) a secure base, or consistent source of support and encouragement, (3) the source of a strong emotional connection (positive or negative), and (4) the source of grief as the result of a hypothetical loss. If an individual is nominated as filling all four of these roles, then he or she can be considered an attachment figure according to the ANQ.

In the current study, the advisor was presented as an option in each of these four areas, and if the advisor was nominated as someone who could play all four roles, then the advisor was considered to be a secondary attachment figure for that individual. Trinke and Bartholomew (1997) present situations in which a more lenient criterion was used (e.g., being nominated in only three out of the four categories), and this criterion will also be applied to these data for comparison purposes.

Individuals taking the ANQ have the option to nominate multiple attachment figures in each of the above roles, and if more than one is nominated, they must be ranked starting at 1 (most preferred). There are two separate items pertaining to the safe haven and secure base roles that differentiate between the attachment figures that are *desired* and those that are *actually used*; a figure is assumed to be the target of attachment if they are *either* desired or actually used in these roles (or both). Following Trinke and Bartholomew (1997), the results presented here will include a consideration of both the average rankings for each potential attachment figure as well as a presentation of the differences between desired and actual sources of attachment security.

Closeness to advisor. Students were asked to report on the "closeness" of the advisor-student relationship at Time 2 using three measures: (1) the Subjective Closeness Index (SCI; Berscheid et al., 1989, 2004), (2) the Inclusion of Other in Self Scale (IOS; Aron et al., 1992), and (3) a modified version of the Relationship Closeness Inventory (RCI; Berscheid et al., 1989, 2004). As discussed above, the RCI measures closeness according to the amount of time spent together per day, the number of different activities in which the dyad regularly engages, and the strength of the influence exerted by the other member of the dyad on the individual. Because the RCI was not intended to measure close relationships that are entirely school-based, several modifications were necessary. First, instead of asking about time spent together alone on a daily basis (as does the RCI), students were asked about the amount of time they spent interacting one-on-one with their advisor per week. Second, given the nature of the advisor-student relationship, many of the questions on the RCI regarding shared activities (e.g., "went on a trip") were inappropriate and were replaced with more appropriate items (e.g., "talked about a school issue"). Students were provided with a list of 20 activities and indicated with a check mark those activities in which they had engaged with their advisor in the past week; a total count was calculated by summing the check marks for each student. Third, the section measuring the influence of the other member of the dyad also contained some inappropriate items (e.g., "X does not influence how much time I spend doing household work") and thus a shortened (i.e., 10-item) version was created using the most appropriate items (e.g., "My advisor influences the way I spend my free time," "My advisor does **not** influence which friends I choose to see", etc.). Students responded to each item using a 7-point Likert-type scale from *strongly disagree* (1) to *strongly agree* (7). Internal consistency reliability was .81 for the "influence" component of the overall scale. There was no clear way to combine the various components (i.e., time spent, shared activities, and influence) into a single summary measure as does the original RCI, so they were analyzed as separate components.

Felt security with advisor. This construct was measured at Time 2 using the Relationship Structures Questionnaire (RSQ: Fraley et al., 2006). As discussed above, security is measured along two dimensions (anxiety and avoidance), with the combination of both low anxiety and low avoidance indicating greater felt security. Both avoidance (e.g., "I don't feel comfortable opening up to X") and anxiety (e.g., "I often worry that X doesn't really care for me") are assessed using four items for each construct. Students responded to each item using a 5-point Likert-type scale from I strongly disagree (1) to I strongly agree (5). Item scores were summed to obtain the subscale scores. Internal consistency reliability was .84 for the avoidance scale and .83 for the anxiety scale.

Engagement in learning. This construct was measured at Time 2 using the Engagement vs. Disaffection with Learning Scale (e.g., Furrer & Skinner, 2003; Patrick, Skinner, & Connell, 1993), a 20-item self-report scale that assesses students' level of engagement in classroom activities along two axes: behavioral engagement (i.e., effort and attention, such as "In school, I work as hard as I can") and emotional engagement (i.e., interest and enjoyment, such as "I enjoy learning new things in school"). Each of the two subscales (i.e., behavioral and emotional engagement) contained five positively worded items and five negatively worded items. Some scale items were originally worded to refer to "in this class," but were altered to refer to the school itself; small changes were also introduced in consultation with school staff to clarify the nature of some items. Students responded using a 4-point Likert-type scale from not at all true (1) to very true (4). Item scores were added to obtain subscale scores, with negatively worded items being subtracted from positively worded items (see Furrer & Skinner, 2003). Internal consistency reliability was .86 (behavioral) and .89 (emotional). The behavioral and emotional subscale scores were highly correlated (r = .73, p < .001) and principle axis factor analysis confirmed that they were a single construct, so the scores were combined to yield a single measure of overall engagement in learning.

Perceptions of advisor and peer support. This construct was assessed at Time 2 using several subscales from the Classroom Life Scale, which measure perceptions of support from advisor and peers along both academic and personal dimensions (Johnson, Johnson, Buckman, & Richards, 1985). The Classroom Life Scale contains two peer-related subscales: peer personal support (four items, such as "In this school, other students care about how much I learn"), and peer academic support (five items, such as "In this school, other students like me the way I am"). There are also two advisor-related subscales: advisor personal support (four items, such as "My advisor really cares about me") and advisor academic support (four items, such as "My advisor wants

me to do my best in schoolwork"). Small alterations were made to scale items (e.g., the original scale used the word "teacher" instead of "advisor"). Students responded to each item using a 5-point Likert-type scale from *never* (1) to *always* (5). Item scores were averaged to obtain subscale scores, and the personal and academic subscales were combined to yield a total peer and total advisor support score for each student. Reliability (Cronbach's alpha) was .92 for both peer and advisor support.

Psychological adjustment ("dispositional hope"). The Dispositional Hope Scale is a selfreport, 12-item scale consisting of two components: an individual's orientation towards their goals (e.g., "I meet the goals that I set for myself"), and the individual's perceived ability to identify workable routes to goal attainment (e.g., "There are lots of ways around any problem"). The two components are "reciprocal, additive, and positively related, although they are not synonymous" (Snyder et al., 1991, p. 571). Research supports the use of hope as a measure of adjustment. For example, hope is related to superior coping behaviors in the face of deadly illness (Irving, Snyder, & Crowson, 1998) and has been linked to lower levels of externalizing behaviors and increased self-worth when dealing with a traumatic accident (Barnum, Snyder, Rapoff, Mani, & Thompson, 1998). In addition, hope is highly relevant to the educational context. Higher-hope students were found to set more aggressive grade goals for themselves and to retain a positive outlook on future goal attainment despite initial negative feedback (Snyder et al., 1991). In a sample of college freshmen, hope predicted grade-point averages over and above entrance exam scores, and higherhope students were more likely to graduate (Snyder et al., 2002).

The two subscales of the Dispositional Hope Scale contain four items each, and students respond to each item using an 8-point Likert-type scale from *definitely false* (1) to *definitely true* (8). The scale also contains four filler items that do not belong to either subscale; these items are included to disguise the true nature of the scale and reduce bias in the responses (Snyder et al., 1991). Item scores were summed to create subscale scores, which are then added to create the total score (Snyder et al., 1991). Internal consistency reliability was .85 and Time 1a, .83 at Time 1b, and .81 and Time 2.

Academic achievement. This construct was measured using the Northwest Evaluation Association's Measures of Academic Progress (NWEA MAP). The MAP is a computerized adaptive test that students complete via the Internet. Test results are reported based upon an equal-interval metric that is scaled to grade-level learning goals, so test scores can be compared across school years to assess how well a student is meeting learning goals across time. The MAP measures both reading and mathematics achievement and is aligned to state standards. MAP tests are administered in the fall and late spring of each school year.

Analytic Procedures

The first step was to analyze the ANQ data in a manner similar to Trinke and Bartholomew (1997) to determine the proportion of students that considered the advisor to be a secondary attachment figure. In the second set of analyses, group differences were examined (i.e., those that did vs. did not nominate the advisor as a secondary attachment figure) in terms of demographics, engagement, perceptions of support, and change in adjustment and achievement over time. To conduct these group comparisons, ANCOVA was used (for the longitudinal data, mixed-effects or group-by-time ANCOVA was used). In the third set of analyses, the various measures

of the advisor–student relationship (i.e., IOS, SCI, RCI, and RSQ) were evaluated for their ability to predict student outcomes using stepwise regression analysis, in which each measure was entered sequentially. In these analyses, the effects of student demographics (i.e., age, gender, race, eligibility for free or reduced-price lunch) were controlled, along with the number of years in school and the number of years with the advisor. Attachment to mother and best friend (1 = yes, 0 = no) as assessed by the ANQ were also controlled, to ensure that the "added value" of the advisor relationship was being assessed over and above the impact of other attachment relationships. Finally, preliminary analyses revealed that the "time" and "count" components of the RCI did not correlate with any outcome measure (|r| < .15, ns), so these variables were not included in the regressions (the "influence" component of the RCI was included).

Missing Data

There was some degree of missing data for the measures of engagement, perceptions of support, RSQ, hope, and academic achievement. Much of this was due to absenteeism, transfers, and the unwillingness of a few students to participate. The results related to achievement data, however, were impacted by a systematic policy exempting students from taking the MAP test if their previous scores had exceeded a certain threshold indicating that they had made a certain amount of progress towards the following year's learning goals. Thus, those students taking the test in the spring of 2008 were those who had not previously attained this threshold. In addition, one school experienced some technical difficulties that impacted their ability to capture and report math test scores for about 20 students. Overall, however, the data can be classified as missing completely at random (MCAR), Little's χ^2 (1033) = 1071.90, ns, suggesting that the missing data did not bias the results. To explore the potential for missing data to bias the results, multiple imputation was applied to the dataset and analyses were performed using both the imputed and nonimputed data. Under multiple imputation, each missing data point is replaced with a set of plausible values that are imputed based upon the relationships found within the extant data (Schafer & Graham, 2002; Sinharay, Stern, & Russell, 2001). The number of plausible values varies, but ideally should be 5 or more (in this case, 10). Because the results did not vary, the nonimputed findings are reported.

RESULTS

The proportion of students nominating each figure as the target of an attachment is found in Table 1. In general, the mother and best friend appear to be the most common attachment figures, a finding that echoes previous research (Kobak et al., 2007). The advisor was nominated by roughly half the sample in each role. Using the more stringent criterion, the advisor was designated as an attachment figure by 81 of 199 or 40.7% of the students (10 students did not complete this measure; the percentages for mother and best friend were 68% and 75%, respectively). The average rankings (see Table 2) reflect a similar pattern, with best friends being the most preferred attachment figures, followed by mothers and partners (lower numbers indicate higher student rankings). When included in the attachment hierarchy, the advisor generally ranked fourth or fifth; in other words, the advisor was rarely a central figure in the hierarchy. The number of years that a student had worked with an advisor was not significantly

Table 1. Proportion Nominating Each Attachment Figure

	Safe haven Desired use	Safe haven Actual use	Secure base Desired use	Secure base Actual use	Hypothetical loss	Emotional connection
Mother	.71	.65	.72	.69	.73	.80
Father	.57	.49	.59	.54	.58	.67
Sibling	.58	.53	.56	.55	.58	.70
Best friend	.78	.78	.73	.71	.75	.78
Advisor	.52	.46	.46	.49	.46	.58
Partner	.44	.42	.42	.37	.38	.42
Other	.26	.25	.23	.23	.22	.31

Table 2. Mean (Median, Standard Deviation) Ranking for Each Attachment Figure

	Safe haven Desired use	Safe haven Actual use	Secure base Desired use	Secure base Actual use	Hypothetical loss	Emotional connection
Mother	2.43	2.36	2.37	2.09	1.84	2.26
	(2.0, 1.40)	(2.0, 1.52)	(2.0, 1.47)	(2.0, 1.31)	(1.0, 1.15)	(2.0, 1.39)
Father	3.39	3.42	2.99	2.96	2.79	3.24
	(3.0, 1.54)	(3.0, 1.54)	(3.0, 1.45)	(3.0, 1.45)	(2.0, 1.34)	(3.0, 1.50)
Sibling	3.60	3.41	3.25	3.37	3.04	3.27
Ü	(3.0, 1.63)	(3.0, 1.54)	(3.0, 1.50)	(3.0, 1.59)	(3.0, 1.47)	(3.0, 1.42)
Best friend	1.97	1.92	2.22	2.34	2.73	2.52
	(2.0, 1.13)	(2.0, 1.10)	(2.0, 1.30)	(2.0, 1.37)	(3.0, 1.35)	(2.0, 1.38)
Advisor	4.14	3.83	4.32	3.87	4.49	4.62
	(4.0, 1.53)	(4.0, 1.62)	(4.0, 1.43)	(4.0, 1.63)	(5.0, 1.53)	(5.0, 1.47)
Partner	2.46	2.46	2.68	3.06	3.15	3.03
	(2.0, 1.43)	(2.0, 1.37)	(2.0, 1.71)	(3.0, 1.84)	(3.0, 1.78)	(3.0, 1.91)
Other	3.91	3.73	4.14	3.69	4.24	4.28
	(3.0, 2.09)	(3.0, 2.07)	(5.0, 2.04)	(3.0, 2.08)	(5.0, 2.07)	(5.0, 2.00)

correlated with any ranking, although the correlation with hypothetical loss was close to being marginally significant (Spearman's r = .17, p = .10, N = 93).

The next step was to explore group differences in demographics by comparing those students that did consider their advisor to be a secondary attachment figure against those that did not. There were no group differences in terms of age, race, socioeconomic status (SES), number of years in the school, and number of years working with the same advisor; however, the difference in gender was close to marginal significance, $\chi^2(1) = 2.65$, p = .10, with a trend toward a higher proportion of girls in the group that nominated their advisor as a secondary attachment figure (.54 vs. .42).

When considering group differences in student outcomes, attachment to mother and best friend were introduced into all analyses along with the associated interaction terms. There was only one situation, however, where these terms generated a significant effect; when predicting engagement in school, the interaction between attachment to mother and advisor was significant, F(1,155) = 8.83, p < .01, partial $\eta^2 = .05$ (see Fig. 1). In all other group comparisons, attachment to mother and best friend and the associated interaction terms were not significant. When considering attachment to advisor as a main effect, there were significant group differences in perceived support from the advisor, F(1,155) = 9.16, p < .01, partial $\eta^2 = .06$, but not in

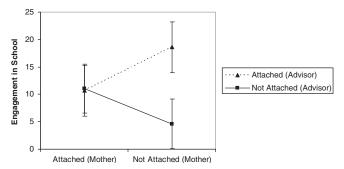


Figure 1. Interaction between attachment to mother and attachment to advisor in predicting engagement in school.

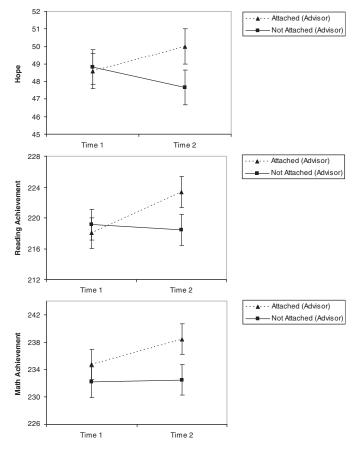


Figure 2. Interaction between time and attachment to advisor in predicting adjustment (i.e., hope) and achievement (i.e., reading and math).

terms of perceived support from peers, F(1,156) = .31, ns, partial $\eta^2 = .00$. When analyzing change in adjustment (i.e., hope) over time, the interaction of advisor attachment and time was significant, F(1,143) = 4.04, p < .05, partial $\eta^2 = .03$. A similar interaction was found for reading achievement, F(1,93) = 5.60, p < .05, $\eta^2 = .06$, and math achievement, F(1,103) = 4.04, p < .05, $\eta^2 = .04$. Figure 2 suggests that these

Table 3. Stepwise Regressions Using Advisor-Student Relationship Measures to Predict Student Outcomes

						DV : En_{ℓ}	DV: Engagement					
		Step 1			Step 2			Step 3			Step 4	
	В	SE(B)	β	B	SE(B)	β	В	SE(B)	β	В	SE(B)	β
SOI	1.36	.50	.21***	.48	.34	.15	09.	89.	60.	01	.64	00.
SCI				1.01	.91	.12	.57	.94	90.	07	.91	01
Influence							2.05	88.	.21**	1.48	.87	.15
Anxiety w/advisor										-3.42	1.04	28***
Avoidance w/advisor										-3.19	1.10	28***
ΔR^2	.15	.19**** (IOS: .04***)	.04***)		.01			.03**			.14***	
F(df) for model	F	F(9,141) = 3.77****		F(1)	F(10,137) = 3.33****	****6	F(1)	F(11,134) = 3.64***	64***	F(1)	F(13, 128) = 6.07****	*****
DV: Hope (Time 2)												
Hope (Time 1)	.52	.07	.54***	.52	.07	.55***	.53	.07	.56***	.50	.07	.53***
SOI	14	.37	02	57	.50	11	49	.51	09	87	.51	16
SCI				.72	.67	.10	68.	.70	.12	.59	.73	80.
Influence							10	.67	01	02	69.	00.
Anxiety w/advisor										-2.27	.87	—.20***
Avoidance w/advisor										80	.95	
ΔR^2		.43***	.		.01			00.			.04***	
F(df) for model	F(F(10,130) = 9.81***	81***	F(1)	F(11,126) = 8.73***	3****	F(1)	F(12,123) = 7.96***	****96	F(1)	F(14,118) = 8.41***	41***

Keading (1ime 1)	Reading (Time 1) .59	80.	.62***	8c:	60.	.61***	55.	60.	**************************************	.57	60.	***7.C.
	.14	.78	.02	30	1.29	03	24	1.22	03	.24	1.26	.03
				.85	1.61	80.	1.55	1.58	.14	80	1.69	.07
							-2.69	1.38	19*	-3.55	1.55	25**
Anxiety w/advisor										.44	1.90	.03
Avoidance w/advisor										-4.64	1.92	30**
		.48***			00.			.03			.04**	*
F(df) for model	F(1)	F(10,74) = 6.88****	*** ***	F(1)	$F(11,70) = 5.81^{***}$	§1***		F(12,67) = 6.46***	3.46***		F(14,59) = 5.63****	5.63***
DV: Math achievement (Time 2)	ne 2)											
Math (Time 1)	1.02		.86***	1.00	.07	.85**		90.	.87***	1.08	.07	****06.
	66.		80.	.41	96.	.03		.95	.02	.55	1.00	.04
				1.06	1.27	.07	.03	1.30	00.	41	1.40	02
							2.08	1.13	.11	5.09	1.40	.10
Anxiety w/advisor										.56	1.55	.02
Avoidance w/advisor										.18	1.67	.01
		****08.			00.			.01*			00.	
F(df) for model	F(10,85)),85) = 34.23***	3***	F(1)	$F(11,81) = 30.14^{****}$	14***		$F(12,78) = 29.60^{***}$	8.60****		F(14,68) = 25.91****	25.91***

Note. Student demographics and the effects of attachment to mother and best friend are controlled. DV = dependent variable; IOS = Inclusion of Other in Self Scale; SCI = Subjective Closeness Index.

*p < .07; **p < .07; ***p < .01; ****p < .001.

group differences did not exist at the beginning of the study but were significant at the conclusion.

When considering the more lenient criterion (i.e., advisor nominated in three out of four categories), the advisor was considered to be part of the attachment hierarchy for 93 of 199 or 46.7% of the students. The findings reported above did not vary when applying the more lenient criteria to the analysis of group differences.

Finally, the various measures of the advisor–student relationship demonstrated differential relationships with student outcomes. As seen in Table 3, the RSQ was more consistently related to positive student outcomes, although it was not able to predict change in math achievement. Advisor influence, a component of the revised RCI, was able to predict student engagement and change in math achievement, at least before the RSQ measures were inserted into the regression. Advisor influence also predicted change in reading scores, but in a negative direction (i.e., greater influence predicted *less* growth in scores). Because this effect did not fully emerge until the RSQ was entered into the regression, it is possible that this finding is the result of a suppressor variable and thus is likely to be spurious.

DISCUSSION

The results from this study provide some evidence that school-based advisors can act as secondary attachment figures for some students. Given the similarities between advisors and mentors, it seems likely that mentors may also be able to assume such a role, which would confirm one of the central tenants of the mentoring literature that has yet to be directly evaluated. As might be expected, advisors were not central to most students' attachment hierarchies; indeed, only a handful of students ranked their advisor at the top of their hierarchy for secure base or safe haven functions. However, the advisor was considered to be at least a "secondary" attachment figure by over 40% of the sample, despite the fact that the most stringent criterion was used for making this determination (see Trinke & Bartholomew, 1997). When the less-stringent criteria are used, this increases to nearly 50% of the sample.

The fact that the duration of the advisor-student relationship was not related to the advisor's place in the attachment hierarchy suggests that the relationship either develops quickly or does not develop at all. This finding stands in contrast to some research on mentoring, in which relationship duration is highly salient (Grossman & Rhodes, 2002). Although limited research has been done on the formation of attachment bonds with nonparental adults in adolescence, research on foster children suggests that early attachment bonds can form quite quickly, perhaps in as little as 3 months (Stovall & Dozier, 2000). The daily interactions between advisors and students in this sample may have accelerated the formation of an attachment bond (if indeed a bond was to form for a specific dyad); in community-based mentoring programs, in contrast, the weekly or bimonthly meetings between mentor and protégé may imply a longer timeframe for the formation of such a bond, perhaps a long as one year. Thus, the advisory program, at least as it is implemented in these schools, may be a "highdose" form of mentoring. Further research is needed to explore the processes and associated timeframes by which the advisor-student relationship develops and the individual and contextual factors that can contribute to its success.

These results also suggest that advisor-student relationships in which the advisor serves as an attachment figure can promote more positive school-related outcomes

among youth. Students who nominated their advisor as a secondary attachment figure were more engaged in school and developed more quickly in terms of academic achievement and adjustment (i.e., hope). Group differences were also found for student perceptions of advisor supportiveness, suggesting that the attachment processes documented in parent–child relationships in adolescence (Allen & Hauser, 1996; Allen et al., 2003) may also be at work in advisor–student relationships. The effect sizes of these group differences were small-to-moderate (Cohen, 1988), suggesting that advisory-programs could have an impact similar to community-based mentoring programs, particularly if future research can identify factors that can contribute to a greater chance of an attachment bond forming between a student and his or her advisor.

These group differences were found even when controlling for each student's attachment to mother and best friend; in fact, attachment to mother and best friend rarely differentiated between students who were successful and unsuccessful in school. The one situation in which attachment to mother was relevant suggested that attachment to advisor played a protective role. As seen in Figure 1, for those students who nominated their mother as an attachment figure, attachment to advisor was not relevant to their success in school; in contrast, attachment to advisor was a strong differentiator among those who did not nominate their mother as an attachment figure. This result echoes previous findings that relationships with nonparental adults can act as a significant protective factor for youth with less-than-ideal relationships at home (Masten et al., 1990).

When considering these group differences, it may be that some students simply demonstrated superior overall adjustment, and that this was reflected in both their academics and their relationships in school. However, as discussed above, the ANCOVA analyses found significant group-by-time interaction effects, and Figure 2 suggests that the groups were not different at Time 1 but were different at Time 2. Thus, group differences do not appear to be the result of one group starting higher than the other; rather, one group seems to have outperformed the other during the course of this study. In addition, the students who related to their advisor as an attachment figure did not report significantly higher (or lower) perceptions of supportiveness from their peers, suggesting that the group differences were not simply related to overall adjustment.

It should be noted that the comparison between the groups of students who have and have not accepted the advisor into their attachment hierarchy is not meant to demonstrate the efficacy of the advisory program (indeed, *all* students were part of the program); rather, the point is to evaluate whether the presence of the advisor in the attachment hierarchy can effectively differentiate between those students for whom the relationship is beneficial from those for whom it is not. The results suggest that the advisor's presence in the attachment hierarchy may indeed be a crucial differentiator, and this finding can assist in developing and sharpening new hypotheses about the factors that contribute to the success of advising (and mentoring) relationships, as well as the processes by which these relationships grow and develop.

Correspondingly, the RSQ was generally the best predictor of student outcomes, suggesting that the attachment framework is not only useful in terms of theorizing about these relationships, but can also enable more effective assessment. With regards to student engagement, the significant effect for relationship avoidance mirrors previous research demonstrating that avoidance predicts lower levels of mastery-related achievement motivation (Elliot & Reis, 2003). According to theory, attachment avoidance is hypothesized to lead to deliberate inhibition of the exploration system

under conditions of stress. Such an approach is developed over time by more avoidant individuals to cope with the perceived unavailability of the attachment figure. In an achievement setting, the "deactivating" approach of more avoidant individuals is carried over to the exploration system, whereby avoidant individuals cope with the potential threat presented by new information (i.e., ambiguity, confusion) by dismissing the importance of this information and repressing curiosity (Mikulincer, 1997). This theory would also explain the link found between attachment avoidance and the change in reading achievement.

The link between engagement and anxiety in the advisor-student relationship corresponds to research demonstrating that relationship anxiety can drain cognitive and attentional resources that would otherwise be directed toward academic pursuits (Mikulincer & Shaver, 2007b). The link between anxiety and the change in adjustment (i.e., hope) over time may reflect a general link between attachment security and mental health (Laible, Carlo, & Raffaeli, 2000; Mikulincer & Florian, 1995; Mikulincer, Florian, & Wells, 1993; Mikulincer & Shaver, 2007a). However, research also exists supporting a specific link between attachment anxiety and maladjustment (Cooper et al., 1998; Shaver & Clark, 1994). According to theory, individuals with more anxious attachment styles are less able to effectively regulate emotions and often become overwhelmed by negative affect, limiting their ability to cope with stressful situations and resulting in increased vulnerability to self-doubt and psychological disturbance. The findings from this study suggest that anxiety in the advisor-student relationship may put students at risk for maladjustment by interfering with emotion regulation in the school setting (alternatively, less anxiety in the advisor-student relationship may be a protective factor that aids emotion regulation in school).

Although the IOS, SCI, and the "influence" component of the RCI were able to predict student engagement, these findings are somewhat less compelling than those for the RSQ. The explained variance is smaller in each case (e.g., .04 for the IOS vs. .14 for the RSQ), and the findings for the other measures disappeared when the RSQ was entered into the regression. In addition, the RSQ was also able to explain variance in hope and reading achievement whereas the other measures were not. The "influence" component of the RCI was, however, able to (marginally) predict change in math achievement, at least before the RSQ was entered. This result may not necessarily be a weakness of the RSQ as much as an artifact of the high stability of math achievement (i.e., 80% of the variance was explained by previous math scores). The link between advisor influence and math achievement, though tenuous, suggests that multiple aspects of the advisor–student (and mentor–protégé) relationship may be relevant, depending on the particular outcome being studied. Overall, future research would be well-advised to consider a wider range of relationship assessments rather than simply relying on subjective "closeness."

Limitations

There are limitations to this study that should temper any interpretation of the results. With regards to internal validity, the research design was not experimental so it not possible to draw unambiguous causal inferences; for example, students who experienced greater success in school may have been more open to a relationship with their advisor. Although advisors do attempt to check in with each student every day, it is likely that students spent differing amounts of time with their advisor, and this may have influenced the results. In addition, student experiences in nonadvisory contexts were not controlled,

so different students may have had different experiences interacting with adults in more traditional academic settings (i.e., in classes). There was also a degree of missing data in this study, and although the missing data did not appear to bias the results, the findings linking the advisor–student relationship to increases in academic achievement may generalize only to those lower-achieving students who did not receive a waiver from testing. Additional research with more complete data is needed.

Readers may also be concerned about shared method variance, given that student-report was the source of much of this data. This is less of a concern, however, when considering that two distinct methods were used to collect the data on student outcomes and on the advisor–student relationship (i.e., Internet-based application vs. pencil-and-paper survey). In addition, shared method variance could reasonably be expected to increase correlations across all measures, but there were several situations where no links were found, such as the relationship between the various closeness measures (i.e., the SCI and IOS) and changes in student adjustment. The fact that a distinct pattern of associations was found adds validity to these findings, especially because this pattern corresponds to the hypotheses.

With regards to external validity, the schools in this sample are somewhat unusual according to common standards for secondary education. For example, students spend a great deal of time with their advisor, not only in terms of hours per week, but also in terms of the number of consecutive years that the advisor–advisee dyad may be together. The schools themselves, which have about 100–125 students, are much smaller than traditional comprehensive high schools. Teachers in these schools are trained and licensed in the conventional manner, but they also receive additional training related to the advisory program as described above. Thus, these results do not necessary generalize to traditional secondary schools and no claims can be made regarding the suitability of advisory programs for every school. Rather, these results merely suggest what is possible in certain contexts. Similar research examining advisory programs in larger, more traditional secondary schools would add significantly to our knowledge about the general efficacy of these programs.

The most important weakness of this study, however, is that, although we may believe that the advisor may become an attachment figure for some students and not for others, we do not know why. Why does this relationship deepen for just some dyads? Speculation can center on factors such as the global attachment style of each member of the dyad, but further research will be required before any conclusions can be drawn.

Implications and Conclusion

Viewing the advisor as a mentor carries significant implications for youth development. Importantly, schools can be seen as not only a place of learning but also as a significant source of security and support for youth, especially those most vulnerable. Given their experience in working with adolescents, teachers may be better prepared for the role of mentor when compared to many community members; thus, advisor–student pairs may have a higher rate of success than community-based pairings. In addition, teachers can reasonably be expected to remain in the school over the course of many years, implying that the advisor–student relationship will not be unexpectedly terminated as often happens in community-based programs (with significant negative consequences for youth; see Grossman & Rhodes, 2002). Finally, given their relative simplicity, it seems reasonable to expect that advisory programs

could be implemented in schools at a fraction of the cost of community-based mentoring programs. Although these advantages are important, there is one obvious drawback to an advisory program when compared to a community-based mentoring program: advisor–student meetings are not likely to take place during the summer, which may have an unknown impact on their quality and continuity. Further research is needed to quantify both the benefits and drawbacks of school-based advisory programs and examine ways in which the design of such programs can be optimized. Future research should also attempt to pinpoint the individual and contextual factors that impact the success of these relationships and examine the processes through which they impact student behavior and adjustment.

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