Teachers are in a very real sense the embodiment of leadership, providing direction, guidance, and feedback to their students in addition to acting as role models. Teachers may well thus benefit from developmental coaching that draws on theories of leadership. This study was both an experimental (randomly assigned conditions) and a quasi-experimental (pre–post) study. A randomized controlled design was used to explore the impact of coaching on goal attainment, mental health, workplace well-being, and resilience, and a quasi-experimental (pre–post) design was used to explore the impact of coaching on leadership styles. Forty-four high school teachers were randomly assigned to either coaching or a waitlist control group. The coaching used a cognitive–behavioral, solution-focused approach and was informed by theories of self-leadership and transformational leadership. Participants in the coaching group received multirater feedback on their leadership style and undertook 10 coaching sessions conducted by professional coaches over a 20-week period. Compared with randomly allocated controls, participation in coaching was associated with increased goal attainment, reduced stress, and enhanced workplace well-being and resilience. Pre–post analyses for the coaching group indicated that coaching enhanced self-reported achievement and humanistic–encouraging components of constructive leadership styles and reduced self-reported aggressive/defensive and passive/defensive leadership styles. Findings suggest that coaching, as a professional development methodology, has great potential to contribute to the development and well-being of society beyond the corporate and organizational settings with which leadership coaching and executive coaching are normally associated.

Keywords: executive coaching, well-being, positive psychology, resilience

The extant outcome literature indicates that coaching may be an effective methodology for developing leadership, enhancing well-being, and facilitating goal attainment within organizational settings. Early research using qualitative single-subject case studies or interview-based methodologies reported that coaching could be effective in helping executives in commercial organizations develop more positive and constructive leadership styles (e.g., Diedrich, 1996; Kiel, Rimmer,
Williams, & Doyle, 1996). Using a more sophisticated within-subjects design, Kampa and White (2002) found that executive coaching enhanced leadership styles as measured by the Multifactor Leadership Questionnaire (Bass & Avolio, 2000). Other studies have reported that coaching can enhance leadership style and improve managerial flexibility and problem-solving abilities (e.g., R. A. Jones, Rafferty, & Griffin, 2006; Styhre, 2008).

There is also growing evidence that coaching can be an effective change methodology for those in executive or nonexecutive roles outside of commercial organizational settings. Using a between-subjects design to explore the impact of coaching in a United States government setting, Evers, Brouwers, and Tomic (2006) found that coaching increased managers’ outcome expectancies and self-efficacy. In a randomized controlled study, Grant, Curtayne, and Burton (2009) found that coaching conducted by professional coaches enhanced resilience, workplace well-being, and goal attainment for executives and senior managers in an Australian public health care agency. In a U.S. Army setting, using a within-subjects design, Bowles and Picano (2006) found that coaching enhanced the quality of life for district recruiting managers. In a similar U.S. Army setting, but using a between-subjects design, Bowles, Cunningham, De La Rosa, and Picano (2007) found that coaching was particularly effective for middle management (compared with executive managers) in terms of leadership development and achievement of self-set goals.

In addition to the above research in workplace or organizational settings, a number of studies have found that coaching in nonwork contexts can enhance well-being and resilience, facilitate goal attainment, and reduce anxiety, stress, or depression (e.g., Grant, 2003; Green, Oades, & Grant, 2006; L. S. Green, Grant, & Ryssaardt, 2007; Spence & Grant, 2007). Thus, overall there is emerging evidence that coaching can be an effective change methodology for a wide range of populations. To extend the evidence base for coaching and to further examine the effectiveness of coaching in noncommercial organizational settings, we conducted an outcome study of developmental coaching with high school teachers. To the best of our knowledge, this is the first published randomized controlled study of the impact of developmental coaching on goal attainment and mental health conducted by professional coaches within an educational setting.

Coaching in Educational Settings: A Broad Brush

There is a considerable amount of literature reporting on coaching in educational settings: A search of the database ERIC in August 2009 using the keywords coaching and education resulted in 2,477 citations, and a search of the database PsycINFO resulted in 586 citations. However, a significant percentage of the literature on coaching in educational settings refers to student-orientated coaching with the aim of enhancing students’ learning or coaching students to overcome specific literacy or learning difficulties (e.g., Merriman & Coddin, 2008; Plumer & Stoner, 2005). There is an emerging literature on teachers receiving coaching themselves (for a useful review of different approaches to coaching teachers in educational settings, see Denton & Hasbrouck, 2009). Such approaches include technical or instructional coaching designed to increase the instructional skills of teachers (e.g., D. Brown, Reumann-Moore, Hugh, Du Plessis, & Christman, 2006; Johal, 2009) and reflective practice coaching, which is “a process in which teachers explore the thinking behind their practices” (Garmston, Linder, & Whitaker, 1993, p. 57). In general, the use of the term coaching in educational settings refers to a very broad range of applications, and very few of these citations refer to leadership or executive coaching conducted by professional leadership coaches or consultants.

Coaching for professional or leadership development in educational settings has been predominantly conducted using peer coaching, and this approach has been used with both novice teachers (Jenkins, Garn, & Jenkins, 2005; Suleyman, 2006) and more experienced educators (Johnson, 2009). However, as in commercial organizations, some senior management in educational settings also engage in some developmental coaching of subordinates (MacKenzie & Marnik, 2008). Such coaching initiatives can be relatively sophisticated, with senior school leader/coaches receiving specific training in coaching skills and then delivering a structured coaching program that incor-
Globally, there has been increasing interest in using professional coaches and consultants for leadership and professional development within educational settings. In the United States, Contreras (2008) reported on a within-subject study with 60 school principals using professional leadership coaches, finding that the school principals reported improved ability to lead their schools. In Australia, conferences, such as the Australian Leadership Coaching Conference for Educators held at Macquarie University, Sydney in 2009, aim to foster dialogue between researchers and practitioners in the emerging area of educational leadership coaching. In a small-scale, within-subjects U.K.-based study, Allan (2007) found that, although leadership development coaching with secondary school (i.e., high school) teaching staff did not improve the educational performance of students, it did result in improvements in the professional performance of the coachees themselves, with observed increases in personal effectiveness, self-confidence, and working relationships with others (for an informed discussion on coaching educational leadership, see Roberson, 2007).

Peer-reviewed research on the topic of professional coaching for educators is somewhat limited. Yet, a cursory search of the Internet indicates that practitioners offering professional development coaching for the educational sector have a substantial online presence. However, like some aspects of general executive coaching practice, the practice of leadership development and executive coaching in educational settings appears to be running ahead of the research base. The present study examining the impact of developmental coaching aimed to contribute a small step in bridging the gap between practice and research.

### Professional Coaching for Teacher Development

High school teachers can wield considerable influence over their students. Teachers are, in a very real sense, the embodiment of leadership. Not only do they provide direction, guidance, and feedback to their students, they also act as role models as they are often in front of their students for up to 6 hr daily.

The notion of teachers as leaders used in this study draws jointly on the concepts of self-leadership (Manz, 1986) and transformational leadership (Bass & Avolio, 1994). **Self-leadership** refers to individuals’ capacity to control their own behavior, influencing and leading themselves through the use of specific behavioral and cognitive strategies designed to improve personal effectiveness (for a useful review, see Neck & Houghton, 2006). Not only do good self-leadership skills enhance one’s own self-regulation and well-being (Neck, Nouri, & Godwin, 2003), but also individuals who display good self-leadership behaviors can be important roles models, fostering similar self-leadership skills in others (Goel, Manz, Neck, & Neck, 1995). Clearly, these are important leadership skills for teachers to develop.

Whereas self-leadership primarily focuses on the enhancement of the self, **transformational leadership** focuses on the leader as a facilitator of positive change in others. Transformational leadership includes four components: inspirational motivation, idealized influence, individual consideration, and intellectual stimulation (Bass, 1985). **Inspirational motivation** refers to the capacity to motivate others and elicit commitment to a course of action or the attainment of goals; **idealized influence** incorporates the role modeling of desired behaviors and influencing others to adopt such behaviors; **individual consideration** refers to the leader’s ability to respond to the specific and individual needs of followers; and **intellectual stimulation** is about fostering and encouraging innovation, creativity, and intellectual activity (Bass & Avolio, 2000). These transformational leadership components clearly align with the notion of a teacher as leader.

Although much of the literature on transformational leadership has focused on leadership and workplace performance within commercial organizational settings (e.g., Geyer & Steyrer, 1998; Patiar & Mia, 2009), recent work has explored the relevance of transformational leadership in a wider range of settings, including education. For example, Leithwood and Jantzi (2006) found that the use of transformational leadership styles improved individual teachers’ classroom practices. Exploring the broader, systemic impact of transformational leadership on school culture, Ross and
Gray (2004) reported that transformational leadership had a positive impact on the collective teaching efficacy of the school and on teachers’ commitment to the school mission and organizational values.

Some of the key challenges facing high school teachers include stress, lack of resources, increased scrutiny and evaluation from key stakeholders, dealing with a cumbersome bureaucratic system, dealing constructively with a diverse student population, and the need to display positive leadership behaviors while under pressure (MacKenzie & Marnik, 2008). In addition, a key challenge facing the high school sector is the retention of teaching staff (Quartz, 2003). Of course, these challenges may vary depending on the type of high school, that is, if it is from the independent, selective, or public sector (Gehrke, 2005).

These are similar developmental challenges to those faced by the commercial organizations that are the predominant users of leadership and executive coaching. Moreover, the processes central to leadership development coaching in organizations (e.g., Argyris, 2000) echo those central to the professional development of teachers, namely, reflection on one’s belief systems and assumptions in order to raise self-awareness, the sharing of such insights with supportive others, and the purposeful enactment of new behaviors (Gehrke, 2005). Thus, we posit that developmental coaching that focuses on personal and professional development and that draws on concepts of self-leadership and transformational leadership may be a useful means of enhancing both leadership styles and improving the work experience of teachers.

Although the theoretical frameworks used in developmental coaching vary considerably, ranging from behavioral and cognitive, to psychodynamic and the solution-focused (Peltier, 2001), underpinning all coaching is a common set of principles (McKenna & Davis, 2009). These include the notions of collaboration and accountability, awareness raising, responsibility, commitment, action planning, and action. That is, irrespective of theoretical orientation, the coaching relationship is one in which the coach and coachee form a collaborative working alliance, set mutually defined goals, and devise specific action steps orientated toward goal attainment (Kemp, 2008). The coachee’s responsibility is the enactment of such steps, and the coach’s role is to keep the coachee focused on the goals, helping to monitor and evaluate progress over time as well as providing an intellectual foil for brainstorming and self-reflection (Grant et al., 2009).

Coaching for leadership or professional development may thus be effective through at least four underlying cognitive and behavioral mechanisms. First, having a supportive and confidential relationship in which to discuss personal and professional issues can reduce anxiety and stress and enhance self-leadership skills (Myers, 1999; Neck & Barnard, 1996). Second, receiving feedback on one’s existing leadership behaviors can raise awareness of areas for development, and such feedback within the context of a supportive and confidential relationship can provide an important platform for purposeful change and the development of constructive and transformational leadership behaviors (Earley, Northcraft, Lee, & Lituchy, 1990; Kluger & DeNisi, 1996; Larsson, Sjoberg, Nilsson, Alvinius, & Bakken, 2007). Third, setting self-concordant and personally valued goals that address the issues highlighted in the feedback process and then purposefully working toward achieving them can facilitate the development of new behavioral repertoires, as well as build self-efficacy and enhance well-being (Sheldon & Houser-Marko, 2001). Fourth, systemically engaging in such activities over a period of time and being supported in overcoming any setbacks can build resilience and develop self-leadership skills (Baumeister, Gailliot, DeWall, & Oaten, 2006). As a result, coachees may experience increased personal confidence, job satisfaction, and well-being as well as being better equipped to deal with change and workplace stressors (Grant et al., 2009).

The Aims of the Research

The aims of the present study were to explore the impact of developmental coaching in an educational setting with a sample of high school teachers. We hypothesized that, in addition to facilitating goal attainment, participation in the coaching program would be associated with enhanced leadership and communication styles; reduced anxiety, stress, and depression; increased resilience; and improved workplace well-being.
Method

Participants

Participants were 50 high school teachers from an independent high school for girls in Sydney, Australia. The program was part of the school’s professional development initiatives for staff. The school’s human resources executive chose to offer the leadership coaching program to all teaching staff following positive feedback from a resilience-building coaching program that had previously been offered to the Year 11 students, a desire for continuous improvement in the quality of teacher leadership, and the continued development of a positive school culture. All teaching staff including the principal, deputy principal, heads of houses, and more junior teaching staff were invited to participate in the program. All participants were engaged in teaching students, and all those that did participate volunteered to be in the study. Because of unexpected changes in work demands, new appointments, or sick leave, six individuals were not able to complete all of the questionnaires or attend all coaching sessions within the specified timeframe. Data from these individuals have been dropped from the analysis. Forty-four individuals completed all of the questionnaires and coaching sessions within the specified 20-week timeframe (31 women and 13 men; mean age = 43.21 years).

Design and Procedure

This study used both an experimental (randomly assigned experimental and control groups for all measures except the leadership survey) and a quasi-experimental (pre–post test for the leadership survey) designs. All participants attended an introductory meeting. Participants completed the measures and were then randomly assigned to a coaching (Group 1) or waitlist control (Group 2) group. All measures except the multirater feedback measures were completed at Time 1 and Time 2 (20 weeks, at the conclusion of the coaching sessions). The coaching group completed the multirater feedback measures after random assignment, which were taken again at Time 3 (which was 10 months after the final coaching session). Ten months was chosen as Time 3 because the optimal test–retest period for multirater feedback measures is between 6 to 12 months (Bracken, Timmreck, & Church, 2001). It should be noted that Time 3 measures were taken in the academic year following the academic year in which the coaching was conducted.

The multirater feedback process. The program focused on enhancing and developing constructive leadership and self-leadership capability and was designed to help to enhance participants’ work experience and satisfaction, to further develop them as teaching professionals, and to help them set and reach specific (individually chosen) goals. The process consisted of multirater feedback on participants’ existing leadership styles followed by 10 individual leadership coaching sessions over a 20-week period.

The aim of the feedback process was to raise participants’ awareness of their current leadership and communication styles, and to help them further develop constructive leadership styles. The Human Synergistics Life Styles Inventory (LSI; Lafferty, 1989) was used for the feedback process.1 The LSI has previously been used in a wide range of settings and industries, including consumer goods, finance, and the educational sector (Q. Jones, Dumphy, Fishman, Larne, & Canter, 2006). In line with best practice (Rogers, Rogers, & Metlay, 2002), participants rated themselves and were also rated by a minimum of five others (i.e., peers and their own manager or supervisor).

The leadership coaching sessions. The coaching sessions were based on a cognitive–behavioral, solution-focused framework (Grant, 2003). This approach posits that goal attainment can be best facilitated by understanding the reciprocal relationships between one’s thoughts, feelings, behavior, and the environment, and purposefully structuring these so as to best support goal achievement. Incorporating a solution-focused perspective into a cognitive–behavioral framework helps ensure that the coaching is orientated toward the development of personal strengths and goal attainment rather than toward problem diagnosis or analysis.

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1 Life Styles Inventory is a trademark of Human Synergistics International. Used with permission from Human Synergistics International.
The cognitive–behavioral, solution-focused approach to coaching facilitates the development of self-leadership skills and helps individuals achieve their goals by (a) identifying desired outcomes or future vision, (b) delineating specific goals, (c) enhancing motivation by identifying personal strengths and building self-efficacy, (d) identifying resources and formulating action plans, (e) monitoring and evaluating progress toward the goals, and (f) modifying action steps (based on evaluation of progress). The monitor–evaluate–modify steps form a change cycle of self-regulated change (Carver & Scheier, 1998), which is central to the coaching process. After initial goal setting, the coach’s role is to help coachees move through the self-regulation cycle, by helping them develop action plans and monitoring and evaluating their progress between each coaching session.

**GROW.** In line with the goal-directed nature of the coaching program, and to ensure that the coaching conversations stayed focused on the designated goals, the GROW (i.e., Goal, Reality, Options, Way forward) model (Whitmore, 1992, 2002) was used to structure each coaching session. GROW is one of the most commonly used methods for structuring coaching conversations (Edgerton & Palmer, 2005) and has been used in a number of previous empirical coaching studies (e.g., Green et al., 2007; Spence, Cavanagh, & Grant, 2008). The way the GROW model was used in this study was that, prior to the coaching session itself, the coachees were asked to identify some broad goals related to self-leadership or transformational leadership aspects of their professional development and then to come to the session prepared to focus on those issues. Such preparation can facilitate engagement in the change process (Gollwitzer, 1999). In the GROW model, using open-ended questions such as “What goal would you like to focus on in this session?” the coaching session typically starts by setting a specific goal for the coaching session. Coach and coachee then explore the current reality before developing options for action and concluding with specific action steps that help define the way forward. An example of the use of the GROW model is provided in Table 1.

There were 10 coaching sessions, and these were held over a 20-week period. Coaching sessions were scheduled at 1- to 2-week intervals. The initial coaching session included a debrief on the developmental feedback, the setting of specific goals based on the feedback, and the development of between-sessions action steps to be undertaken by the coachee. As multirater feedback can be emotionally disturbing (Rogers et al., 2002), in line with best

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<th>The GROW Model</th>
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<td>Acronym</td>
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<tr>
<td>Goal</td>
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<td>Reality</td>
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<td>Options</td>
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<td>Way forward</td>
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practice, participants were contacted within 48 hr after the initial session to monitor their reactions to the feedback.

The coaching was conducted by 10 experienced professional coaches who were randomly assigned to coachees. All coaches had tertiary-level postgraduate qualifications in coaching psychology. Each coach had two to three coachees.

**Treatment fidelity.** To ensure program fidelity and in line with best practice for reflective practitioners, all coaches kept detailed notes of each coaching session and completed a structured self-reflection journal following each coaching session. Coaches noted what had worked well in the session, what needed to be improved, and whether or not there were any difficulties (e.g., coachee engagement, perceived resistance to change, goal clarification issues) that needed to be discussed in supervision (for details of reflective practice in coaching, see Hay, 2007). These notes were then reviewed in formal supervision sessions. Supervision was provided by a doctoral-level psychologist with extensive experience in developmental and leadership coaching and coaching psychology.

**Measures**

**Goal attainment scaling.** Following the multirater feedback process, participants were asked to identify one personal and one work-related goal that they wanted to achieve. The personal goal was included to foster the development of self-leadership skills, and the work-related goal was designed to reflect facets of transformational and constructive leadership. Participants then responded to the question, “Up to today, how successful have you been in achieving this goal?” and rated their goal attainment on a scale from 0% (*no attainment*) to 100% (*complete attainment*). To control for differences between participants in perceived goal attainment difficulty, participants also rated the goals for perceived difficulty on a 4-point scale (1 = *very easy*, 4 = *very difficult*). Goal attainment scores were then calculated by multiplying the difficulty rating by the degree of success. Participants also rated the length of time they had been trying to achieve their goals. Thisideographic approach to goal attainment scaling draws on the work of Emmons (1986) and Sheldon and Elliot (1998). Such goal attainment scales have been used in prior coaching outcome studies (e.g., Green et al., 2006; for a compressive discussion of the use of different approaches for the measurement of goal attainment in coaching, see Spence, 2007).

**Resilience.** An 18-item version of the Cognitive Hardiness Scale (CHS; Nowack, 1990) was used to assess resilience. This scale, based on Kobasa’s (1979) work, assesses the individual’s sense of personal control, propensity to rise to meet challenges, and commitment to action. The CHS has been used in a wide range of studies, including exploring burnout (Gopal, Glasheen, Miyoshi, & Prochazka, 2005), stress and work absenteeism (R. Greene & Nowack, 1996), and executive coaching (Grant et al., 2009). Nowack (1990) reports an internal consistency of .83, and Beasley, Thompson, and Davidson (2003) found that resilience, as measured by the CHS, played a moderating role in mitigating the effects of negative events and their impact on psychological health; indeed, the CHS was found to be “the single most consistent predictor of decreased scores of psychopathological and somatic distress in its direct effect role” (p. 92). The measure is scored on a 5-point Likert-type scale. Cronbach’s alpha for the present study was .82.

**Depression, anxiety, and stress.** The Depression Anxiety and Stress Scale (DASS; Lovibond & Lovibond, 1995) was used as a measure of psychopathology. The DASS comprises three

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2 Coaching psychology is relatively new psychological subdiscipline that has emerged over the past 10 years primarily in Australia, the United Kingdom, and a number of European psychological societies. The Australian Psychological Society (see http://www.groups.psychology.org.au/igcp/about_us/) defines coaching psychology as an applied positive psychology focused on the systematic application of behavioral science to the enhancement of life experience, work performance, and well-being for individuals, groups, and organizations that do not have clinically significant mental health issues or abnormal levels of distress. There are now coaching psychology units in at least four universities worldwide, and a number of British and Australian universities offer postgraduate qualifications in coaching psychology.
subscales measuring depression, anxiety, and stress. Because it is designed to be used with both clinical and nonclinical populations, it is a useful assessment tool for assessing coaching outcomes. The DASS has been widely used as a measure of psychopathology, including as a routine clinical outcome measure (Ng et al., 2007), in elderly primary care patients (Gloster et al., 2008), in nonclinical populations (Henry & Crawford, 2005), and in exploring absenteeism from work due to mental health problems (Nieuwenhuijsen, de Boer, Verbeek, Blonk, & van Dijk, 2003). The scale has good reported psychometric properties, including factor structure (Clara, Cox, & Enns, 2001; Lovibond & Lovibond, 1995). Internal consistency and test–retest reliability have been found to be good ($r = .71$ to $.81$; T. A. Brown, Chorpita, Korotitsch, & Barlow, 1997). The measure is scored on a 4-point Likert-type scale. Cronbach’s alphas for the present study were .89 (depression), .93 (anxiety), and .93 (stress).

**Workplace well-being.** Workplace well-being was measured with the Workplace Well-Being Index (WWBI; Page, 2005). Workplace well-being is defined as the sense of well-being that employees gain from their work, and is conceptualized as core affect plus the satisfaction of intrinsic and extrinsic work values. The WWBI integrates research by Knoop (1994) on job satisfaction and work values and the subjective well-being literature (e.g., Diener, 2000). The WWBI has good convergent validity (Grant et al., 2009). The scale has a two-factor structure with the two factors labeled Extrinsic and Intrinsic Satisfiers. Cronbach’s alphas are reported as being .92 and .89, respectively, with internal consistency for the scale as a whole being good (Cronbach’s $\alpha = .93$; Page, 2005). The 16-item WWBI assesses the degree of well-being and satisfaction that individuals gain from their work using 0 (very dissatisfied) and 10 (very satisfied) as the scale anchors. The WWBI includes 15 domain-specific items such as “How satisfied are you with how meaningful your work is?”; “How satisfied are you with your working conditions?”; “How satisfied are you with the recognition you receive for good work?”; and one question assessing global workplace satisfaction, “How satisfied are you with your job as a whole?” Cronbach’s alpha for the present study was .87.

**Leadership styles.** The LSI (Lafferty, 1989) was used to assess leadership styles. The LSI is a widely used assessment inventory that measures 12 thinking and behavioral styles, combining these into three key clusters.3 The Constructive cluster consists of achievement, self-actualizing, humanistic–encouraging, and affiliative styles. The Passive/Defensive cluster consists of approval, conventional, dependant, and avoidance styles. Finally, the Aggressive/Defensive cluster consists of oppositional, power, competitive, and perfectionistic styles. Cronbach’s alphas for the present study were .82 (Constructive cluster), .93 (Passive/Defensive cluster), and .90 (Aggressive/Defensive cluster).

Construct validity of the LSI is good, with a number of empirical studies supporting the presence of the three underlying dimensions (e.g., Cooke & Rousseau, 1983; Masi, 2000; Ware, Leak, & Perry, 1985). Furthermore, constructive leadership styles have been found to be positively related to team productivity, whereas aggressive/defensive styles have been found to be negatively related to team productivity (e.g., Gratzinger, Warren, & Cooke, 1990; Masi, 2000). In a review of the literature relating to the LSI, Skenes and Honig (2004) conclude that the reported relationships between the LSI and a wide range of health and work-related factors point to the value of the LSI as a useful management development tool. The measure is scored on a 4-point Likert-type scale.

In terms of leadership behaviors, the Constructive cluster is analogous to transformational leadership styles, which emphasis the importance of articulating a clear sense of mission and purpose, being intellectually stimulating, providing timely and encouraging feedback, and coaching and mentoring. Participants in the developmental coaching program were encouraged to focus on selecting goals for coaching that aligned with components of the Constructive cluster of the LSI, although participants were free to select any work-related or personal goal they wished to attain. Examples of the types of goals set by coachees are presented in Table 2. In line with best practice

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3 All LSI terminology, style names, and descriptions are from the Life Styles Inventory by J. C. Lafferty, Human Synergistics International. Copyright 2009 by Human Synergistics. Adapted by permission from Human Synergistics International.
for developmental feedback procedures (Rogers et al., 2002), participants rated themselves and were also rated by a minimum of five others.

**Results**

We hypothesized that participation in the coaching program would be associated with increased goal attainment; increased resilience; decreases in depression, anxiety, and stress; and increases in workplace well-being. As regards the LSI, it was predicted that participation in the coaching program would be associated with increases in Constructive cluster scores and decreases in Aggressive/Defensive and Passive/Defensive cluster scores. The means and standard deviations for all variables for the coaching and control groups are shown in Table 3.

Data were analyzed using a $2 \times 2$ repeated measures analysis of variance (ANOVA) consisting of one between-subjects factor (group) and one within-subject factor (time) to analyze the data for Time 1 and Time 2. Paired sample $t$ tests were used to analyze the LSI data. Where assumptions of

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<th>Table 2</th>
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<tr>
<td><strong>Examples of Goals Set by Coachees</strong></td>
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<tr>
<td>Work-related goal</td>
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<tr>
<td>More frequently demonstrate aspects of transformational leadership in my teaching practice, the success of which will be evidenced by greater student engagement and further increases in prosocial, positive student behavior.</td>
</tr>
<tr>
<td>Connect more meaningfully and collaboratively with others in my role as a designated teaching and learning mentor.</td>
</tr>
<tr>
<td>Get on top of paperwork in order to spend more time on the maths teaching and innovative development project.</td>
</tr>
<tr>
<td>Increase the amount of authentic positive feedback that I give to others.</td>
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**Table 3**

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<th>Mean Pre- and Postprogram Scores for Coaching and Control Groups ($N = 44$)</th>
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<tr>
<td><strong>Variable</strong></td>
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<td></td>
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<tr>
<td>GAS (work)</td>
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<td>GAS (personal)</td>
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*Note. GAS = goal attainment scaling; WWB = workplace well-being.*
normal distribution were not met, the Wilcoxon signed-ranks test was used. Given the relatively small sample sizes, the experiment-wise error rate was not controlled for and this should be borne in mind when interpreting the results. Cohen’s $d$ is given as a measure of effect size.

**Goal Attainment**

A repeated measures ANOVA for workplace-related goal attainment showed a significant main effect, $F(1, 45) = 20.00, p < .001$, and a significant time (Time 1, Time 2) by group (Group 1, Group 2) interaction effect, $F(1, 45) = 24.76, p < .001$, Cohen’s $d = 1.48$, indicating that Group 1 had higher workplace goal attainment scores at the completion of coaching at Time 2, compared with Group 2, which did not receive coaching.

A repeated measures ANOVA for the personal goal also showed a significant main effect, $F(1, 45) = 22.00, p < .001$, and a significant time (Time 1, Time 2) by group (Group 1, Group 2) interaction effect, $F(1, 45) = 23.77, p < .001$, Cohen’s $d = 1.46$, indicating that Group 1 had higher personal goal attainment scores at the completion of coaching at Time 2, compared with Group 2. See Figure 1.

**Resilience**

A repeated measures ANOVA for the CHS did not show a significant main effect, $F(1, 45) = 1.79, ns$. However, there was a significant time (Time 1, Time 2) by group (Group 1, Group 2) interaction effect, $F(1, 45) = 6.24, p < .05$, Cohen’s $d = 0.72$, indicating that Group 1 had higher scores at the completion of coaching at Time 2, compared with Group 2. See Figure 2.

**Depression, Anxiety, and Stress**

A Shapiro–Wilk test indicated that the data for depression, anxiety, and stress were not normally distributed: depression, $W(47) = .68, p < .001$; anxiety, $W(47) = .70, p < .001$; stress, $W(47) = .89, p < .02$. A Wilcoxon signed-ranks test indicated that there were no significant differences from Time 1 to Time 2 between Group 1 and Group 2 for depression ($W_+ = -263, p = .79$; Cohen’s $d = 0.22$) or anxiety ($W_+ = -0.796, p = .42$, Cohen’s $d = 0.40$). However, there were significant differences for stress ($W_+ = -3.044, p < .01$, Cohen’s $d = 1.17$), indicating that Group 1 had lower stress scores at the completion of coaching at Time 2, compared with Group 2.

**Workplace Well-Being**

A repeated measures ANOVA for workplace well-being did not show a significant main effect, $F(1, 45) = 0.4, ns$. However, a repeated measures ANOVA for workplace well-being showed a

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**Figure 1.** Goal attainment for work-related and personal goals at Time 1 and Time 2.
significant time (Time 1, Time 2) by group (Group 1, Group 2) interaction effect, $F(1, 45) = 4.18$, $p < .05$, Cohen’s $d = 0.59$, indicating that Group 1 had higher workplace well-being scores at the completion of coaching at Time 2, compared with Group 2. See Figure 3.

**Leadership Styles**

Paired $t$ tests were used to examine the impact of coaching on participants’ leadership styles as measured by the LSI. Means, standard deviations, $t$ values, and $p$ values for LSI ratings are presented in Tables 4 and 5.

For self-ratings, significant pre–post coaching increases in the Constructive cluster were found for achievement and humanistic–encouraging styles. Significant pre–post coaching decreases in the Passive/Defensive cluster were found for approval, dependant, and avoidance styles. Significant pre–post coaching decreases in the Aggressive/Defensive cluster were found for oppositional, power, and competitive styles. All pre–post changes in scores were in predicted directions. There were no significant changes pre–post coaching for the LSI ratings by others. Tables 4 and 5 show the results and effects sizes for the coaching group’s pre–post LSI scores for self-ratings and for other ratings.
Discussion

This study used both an experimental (randomly assigned conditions) and a quasi-experimental (pre–post) design and has provided preliminary evidence that coaching may well be an effective developmental intervention for high school teachers. In addition to facilitating goal attainment, participation in the coaching program was associated with enhanced self-reported leadership and communication styles. Compared with controls, the coaching group reported reduced stress, increased resilience, and improved workplace well-being. Thus, this study indicates that coaching, as a professional development intervention, may well have utility within education settings as well as corporate environments.

Coaching and Leadership Styles

Participation in the developmental coaching program was associated with significant reductions in self-reported passive/defensive and aggressive/defensive leadership styles and significant improvement in self-reported constructive leadership styles. Although such findings are very encouraging and are in alignment with the goals of the program, it must be noted that there was no such change for others’ ratings of participants’ leadership styles.

The multirater feedback literature indicates that there are often discrepancies between self and others’ perceptions of leadership behaviors, and these are often due to common self-serving perceptual biases (Francis & Leanne, 1993). In this case, there may be two other logistical explanations at play. First, the teachers in this study were rated by their manager (the school principal) and their peers (other teachers), and not by the students they taught. But, like most teachers, many of the teachers in this study spent the majority of their time in their classrooms teaching students, not interacting with their peers. Second, and possibly more important, because of unexpected changes in work demands, new appointments, or sick leave, it was not possible to use the same peer raters at Time 1 and Time 3, which was in the following academic year: Different

Table 4

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Pre</th>
<th>Post</th>
<th>t(22)</th>
<th>p</th>
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<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td>Constructive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Achievement</td>
<td>29.47</td>
<td>5.79</td>
<td>31.21</td>
<td>5.67</td>
<td>2.52</td>
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<td>28.52</td>
<td>5.59</td>
<td>29.39</td>
<td>6.26</td>
<td>0.79</td>
</tr>
<tr>
<td>Humanistic–encouraging</td>
<td>32.30</td>
<td>4.31</td>
<td>33.91</td>
<td>4.71</td>
<td>2.34</td>
</tr>
<tr>
<td>Affiliative</td>
<td>32.56</td>
<td>4.98</td>
<td>32.30</td>
<td>5.91</td>
<td>0.28</td>
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<tr>
<td>Passive/Defensive</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approval</td>
<td>14.89</td>
<td>5.90</td>
<td>13.26</td>
<td>5.80</td>
<td>1.90</td>
</tr>
<tr>
<td>Conventional</td>
<td>12.73</td>
<td>5.52</td>
<td>12.95</td>
<td>5.48</td>
<td>0.29</td>
</tr>
<tr>
<td>Dependant</td>
<td>14.06</td>
<td>6.17</td>
<td>13.26</td>
<td>6.46</td>
<td>2.03</td>
</tr>
<tr>
<td>Avoidance</td>
<td>6.73</td>
<td>5.82</td>
<td>5.26</td>
<td>5.01</td>
<td>2.22</td>
</tr>
<tr>
<td>Aggressive/Defensive</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oppositional</td>
<td>7.04</td>
<td>4.47</td>
<td>5.00</td>
<td>5.21</td>
<td>3.84</td>
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<tr>
<td>Power</td>
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<td>4.63</td>
<td>3.04</td>
<td>3.58</td>
<td>1.69</td>
</tr>
<tr>
<td>Competitive</td>
<td>9.95</td>
<td>6.14</td>
<td>8.47</td>
<td>5.99</td>
<td>2.00</td>
</tr>
<tr>
<td>Perfectionistic</td>
<td>15.39</td>
<td>4.31</td>
<td>15.08</td>
<td>4.47</td>
<td>0.45</td>
</tr>
</tbody>
</table>

Note. Research and development by Robert A. Cooke and J. Clayton Lafferty. Style descriptions and items are copyrighted and used with permission from Human Synergistics International. From J. C. Lafferty (1989), Life Styles Inventory: LSII Self-Development Guide, Plymouth, MI: Human Synergistics International. All rights reserved.
people rated the coaching participants’ leadership styles at Time 1 and Time 3, and thus the “other”
ratings taken at Time 1 and ratings taken at Time 3 may not be directly comparable.

Coaching, Mental Health, and Well-Being

As well as facilitating goal attainment and improving self-reported leadership styles, participation
in the program was also associated with higher Time 2 scores for resilience and workplace
well-being compared with controls. However, although there was a statistically significant interac-
tion for resilience, as can be seen in Figure 2, the Time 1 to Time 2 scores for the coaching group
remained virtually stable, whereas the control group’s scores diminished over time.

It may be speculated that as the participants approached the end of the school term (which was
as the coaching terminated and Time 2 measures were taken), participants naturally started to feel
tired and less resilient, and this depletion effect was apparently evident for the control group but not
the coaching group. This suggests that the coaching may have had a prophylactic effect, and this
notion makes sense because as participants committed to engaging in the goal-striving process over
time, there were inevitable problems to be overcome and challenges to be met. Overcoming such
difficulties within the context of a supportive, goal-focused relationship with a coach is likely to
develop one’s self-regulation abilities (Baumeister, Vohs, & Tice, 2007) and self-leadership skills
(Boss & Sims, 2008). Furthermore, the processes inherent in cognitive–behavioral, solution-focused
executive coaching are similar to interventions that have been formulated to build resilience (e.g.,
Maddi, Kahn, & Maddi, 1998). In addition, the goal-striving process itself can improve well-being,
and this is particularly the case when the goals are personally relevant and aimed at enhancing
self-leadership skills (Sheldon & Elliot, 1999). Indeed, the present study’s findings are in accord
with past research that has shown that cognitive–behavioral, solution-focused coaching can improve
personal resilience for high school students (Green et al., 2007) and can also enhance individual
resilience and workplace well-being for executive coaching clients (Grant et al., 2009).

Table 5
Mean Pre- and Postprogram Scores for Life Styles Inventory for the Coaching Group
Other Ratings (n = 23)

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Pre</th>
<th>Post</th>
<th>t(22)</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
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<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td></td>
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<tr>
<td>Constructive</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Achievement</td>
<td>30.69</td>
<td>4.26</td>
<td>31.26</td>
<td>3.65</td>
<td>.95</td>
</tr>
<tr>
<td>Self-actualizing</td>
<td>29.43</td>
<td>4.06</td>
<td>29.53</td>
<td>4.48</td>
<td>.17</td>
</tr>
<tr>
<td>Humanistic–encouraging</td>
<td>31.49</td>
<td>3.81</td>
<td>31.77</td>
<td>3.62</td>
<td>.38</td>
</tr>
<tr>
<td>Affiliative</td>
<td>31.05</td>
<td>4.17</td>
<td>30.59</td>
<td>4.19</td>
<td>.62</td>
</tr>
<tr>
<td>Passive/Defensive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approval</td>
<td>11.69</td>
<td>3.36</td>
<td>11.20</td>
<td>3.97</td>
<td>.67</td>
</tr>
<tr>
<td>Conventional</td>
<td>12.76</td>
<td>2.65</td>
<td>12.34</td>
<td>4.12</td>
<td>.73</td>
</tr>
<tr>
<td>Dependant</td>
<td>12.72</td>
<td>3.51</td>
<td>11.96</td>
<td>4.53</td>
<td>1.23</td>
</tr>
<tr>
<td>Avoidance</td>
<td>5.28</td>
<td>2.20</td>
<td>5.11</td>
<td>4.22</td>
<td>.22</td>
</tr>
<tr>
<td>Aggressive/Defensive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oppositional</td>
<td>5.49</td>
<td>2.71</td>
<td>5.11</td>
<td>3.60</td>
<td>.45</td>
</tr>
<tr>
<td>Power</td>
<td>4.45</td>
<td>3.41</td>
<td>3.95</td>
<td>4.22</td>
<td>.72</td>
</tr>
<tr>
<td>Competitive</td>
<td>9.23</td>
<td>4.59</td>
<td>9.28</td>
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<td>.05</td>
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<td>Perfectionistic</td>
<td>15.90</td>
<td>4.24</td>
<td>15.54</td>
<td>4.37</td>
<td>.63</td>
</tr>
</tbody>
</table>

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reserved.
In terms of psychopathology, the coaching program did not affect participants’ levels of depression or anxiety. However, there was a significant reduction in coachees’ levels of stress. This may have been because participants’ levels of depression and anxiety were within the normal range, whereas their stress levels were slightly elevated and fell within the mild to moderate range (see Lovibond & Lovibond, 1995). The fact that coaching reduced stress is noteworthy given that the goals of the program focused on professional development issues related to self-leadership and constructive transformational leadership rather than specifically on stress reduction; this is in accord with past work that has found that goal-focused coaching can reduce stress (Gyllensten & Palmer, 2005), even when managing stress is not the direct focus of the coaching intervention (Wales, 2003).

The differential effects on the measures of resilience, well-being, and psychopathology in the present study highlight important issues for coaches and consultants who wish to measure the psychological outcomes of coaching interventions. Psychopathology assessment measures such as the DASS can measure only the presence or absence of depression, anxiety, or stress, and not the presence or absence of positive attributes such as resilience or well-being. Future research should keep this point in mind when selecting outcome measures.

**Future Research Directions**

Although there may well be a number of practical difficulties in bringing professional coaching into educational settings on a large-scale basis, addressing such difficulties is beyond the scope of this article. However, there are a number of directions that future research could explore to warrant such scaling up of this form of coaching. Such research could benefit both the educational sector and further develop our understanding of developmental coaching. Given that this study and past research has demonstrated that coaching can improve mental health and well-being, future research could examine whether coaching is indeed an effective prophylactic in educational settings. We consider this to be an important point for future research, given the high levels of stress frequently associated with the teaching profession (van Dick & Wanger, 2001). Developmental coaching that enhances self-leadership skills may also have the potential to reduce stress-related sick leave, a key issue in much of the education system (Troman & Woods, 2000). Furthermore, as mentoring and constructive educational leadership have been shown to increase teacher retention (Ingersoll & Kralik, 2004), the fostering of positive leadership through developmental coaching may well be a means of keeping teachers in the profession. In addition, it may be useful for future research to examine the impact of individual one-to-one coaching at an organizational level. On an organizational level, resilience and well-being have been found to be related to positive organizational citizenship behaviors (Avey, Wernsing, & Luthans, 2008). These are important factors in building healthy, efficient, and high-performing organizations (Luthans, Youssef, & Avolio, 2007), and as such have direct relevance for school cultures that play a significant role in shaping the citizens of the future.

**Limitations**

Of course, there are a number of limitations in the present study, and these should be taken into account when interpreting these findings. First, the participants were teachers in an independent Australian high school, and as such they may have characteristics different from teachers in the public sector or in other countries and cultures. Thus, the findings of this study may not necessarily generalize to other populations. Second, the outcome measures are self-report and could be subject to a demand characteristics effect where participants may have felt obliged to report a positive outcome. Third, it may be that the effects found in this study were due to the supportive nature of the coach–coachee relationship rather than the goal-directed nature of the coaching process itself. Future research could explore this issue by comparing a noncoaching supportive relationship with a goal-focused coaching process. In addition, because of budgetary limitations, only the coaching group completed the multirater feedback measures, so comparisons of multirater feedback cannot be made between the coaching group and the control group. In addition, although all the participants were teachers, a few were also significantly involved in school administrative roles, but from the
data collected, it was not possible to determine exactly how many participants held significant administration roles; thus, it is not known if these dual roles affected coaching outcomes. Finally, it is not known whether the self-reported improvements in leadership behaviors where actually manifested in increases in transformational leadership behaviors in the classroom setting itself. This final point provides an additional focus for future research. Future research should include students’ perceptions of the teachers’ leadership style in the classroom. Such research could give valuable insights, particularly if it is linked to student outcomes such as student performance, well-being, and out-of-school citizenship behaviors.

Conclusion

In conclusion, this study has provided useful preliminary evidence that cognitive–behavioral, solution-focused developmental coaching has utility in educational settings. In doing so, we have extended the existing knowledge base on coaching and have helped to further develop evidence-based approaches to coaching. Many professional coaches and consultants now have considerable experience in conducting executive and leadership coaching engagements in commercial and organizational settings. Such experience has much to offer to the broader social enterprise, including the educational sector. We encourage executive coaches and consultants to extend their research and practice and look for new applications in such areas, and in doing so to continue to further contribute to society’s development and well-being.

References


Depression Anxiety Stress Scales (DASS): Detecting anxiety disorder and depression in employees absent from work because of mental health problems. *Occupational and Environmental Medicine*, 60, 77–82.


