BUILDING RESILIENCE RESOURCES DURING ORGANIZATIONAL CHANGE: A LONGITUDINAL QUASI-EXPERIMENTAL FIELD STUDY

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The aim of the current quasi-experimental field study was to investigate the immediate and 3-month follow-up effects of the resilience-building program ResilienceWise, using a 2 (group) × 3 (time) mixed design. This blended program consisted of an individual assessment, four one-on-one sessions, and two modules in the online, self-help, psychological fitness program Psyfit (Bolier et al., 2013). The aim was to enhance resilience resources and positive adaptation in health-care office workers ($n = 91$) of a large Dutch insurance company during organizational change. The results of this experimental group were compared with the results of a no-program comparison group ($n = 140$). Positive immediate and long-term effects were found on hope, self-efficacy, environmental mastery, purpose in life, positive affect, positive relationships, general health, and recovery from stress. Only a long-term effect was found on task performance. No effects were found on optimism and mindfulness. The strength of the coach–client relationship was related to most of the immediate program effects. This article reports additional results for a group that attended all one-on-one sessions but did not (fully) adhere to the online component of the ResilienceWise program ($n = 67$). For this group, we found no significant effects on the dependent variables, implying that only the complete ResilienceWise program was effective. All in all, the current study confirms that resilience resources and positive adaptation can be enhanced in employees during organizational change. These findings extend the existing evidence

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that resilience-building programs can be effective and are promising for employees in need of resilience during organizational change.

What's It Mean? Implications for Consulting Psychology
An effective resilience-building strategy to protect individual employees from the potential negative effects of organizational change can be to support them in enhancing resilience resources, such as hope, purpose in life, and self-efficacy. Building these resources also might help employees better adapt to change. Consulting psychologists offering such support should take into consideration that this strategy seems most effective for employees who experience a strong working relationship with them.

Keywords: psychological resilience-building program, organizational change, effectiveness, coaching, working relationship

The expression "Change is the new normal" refers to the notion that we are working (and living) in a world of continuous change. In an occupational context, change can take many forms. It might involve downsizing, a merger, new technologies, automation of tasks, an increase in digital communication, short-term contracts, or flexible work (Crane, 2017; Fisher et al., 2019; Kossek & Perrigino, 2016). Currently, an important trigger for change in organizations is the COVID-19 crisis. It entails, for example, social distancing, wearing masks, working from home, and reduced traveling. Whatever the change in organizations, it comes with a price. Based on a large workplace study ($N =$ 1,512 respondents), the American Psychological Association (2017) concluded that half of the U.S. adult working population is affected by organizational change. The study showed that affected employees compared with nonaffected employees were more than twice as likely to report chronic work stress and more than four times as likely to report physical health symptoms. This study does not stand on its own; many other studies reported on the negative effects of organizational change (see, e.g., Giæver & Hellesø, 2010; Quinlan & Bohle, 2009). Therefore, change is considered a risk factor for occupational health (Saksvik et al., 2007).

The question of why some employees successfully adapt to stressful events or circumstances (*stressors*), such as organizational change, is addressed in studies that focus on psychological resilience (Crane, 2017; Fletcher & Sarkar, 2013). *Psychological resilience* is defined as the dynamic process of adapting well in the face of a stressor (American Psychological Association, 2012; IJntema et al., 2019).[1] Therefore, one way to protect employees from the potential negative effects of organizational change is to enhance psychological resilience (Brown & Abuatiq, 2020; Fletcher & Sarkar, 2013; Rogerson et al., 2016). An increasing number of companies are implementing resilience-building programs during times of change (Rogerson et al., 2016). To make it worthwhile for companies to invest in or develop resilience-building programs, it is important to know whether these programs are effective. To date, three systematic reviews have synthesized the evidence regarding the effectiveness of programs aimed at resilience building in an occupational context (Fox et al., 2018; Robertson et al., 2015; Vanhove et al., 2016). These reviews showed that these programs can be effective. However, these reviews did not specifically look at resilience building in an organizational-change context. The aim of the current study is to investigate the effectiveness of a new psychological resilience-building program ResilienceWise (in Dutch *VeerkrachtWijzer*) in the context of organizational change (for a description of the program, see the ResilienceWise Program section).

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[1] We speak of *psychological resilience* to clarify that we studied resilience at the mental level of human functioning and not at the physical level (Tusaie & Dyer, 2004). Hence, when we use the terms *resilience* or *resilience-building program*, we mean, respectively, *psychological resilience* and *psychological resilience-building program*.

Previous Research

In peer-reviewed scientific journals, we found two studies that specifically investigated resilience building in an organizational-change context (Rogerson et al., 2016; Sherlock-Storey et al., 2013). The first study (Sherlock-Storey et al., 2013) examined how effective a resilience coaching program was in enhancing resilience in 12 middle managers of a U.K. public-sector organization facing budget, staff, and service cuts. The second study (Rogerson et al., 2016) examined how effective a mixed program (combining an educational, strengths-based, cognitive-behavioral, solution-focused, and relaxation approach) was in enhancing resilience in 13 employees of an Australian power-distribution company facing downsizing. Both studies showed encouraging results.

The first study (Sherlock-Storey et al., 2013) had a 1 (single group) × 2 (pretest, posttest) design and showed that resilience was enhanced in program participants as measured by the Resilience scale of the Psychological Capital Questionnaire (Luthans et al., 2007). The second study (Rogerson et al., 2016) had a 2 (experimental group; control group) × 2 (pretest; posttest) randomized controlled design and showed that resilience was enhanced in program participants as measured by the Resilience at Work Scale (RAW; Winwood et al., 2013). Participants reported significantly higher scores on five of the seven subscales of the RAW: Finding Calling, Maintaining Perspective, Managing Stress, Interacting Cooperatively, and Staying Healthy. No effects were found on the two other subscales: Living Authentically and Building Networks. These results indicate that resilience can be enhanced during organizational change. However, limitations of these studies were that they (a) were based on outdated conceptualizations of resilience as an ability or outcome rather than the most recent process-based conceptualization of resilience (for more information about the different conceptualizations of resilience, see IJntema et al., 2019); (b) had small sample sizes, which meant that the results were only tentative; and (c) did not collect longitudinal data. Therefore, it remains unclear whether these findings were sustained. The added value of the current effectiveness study is that it adopts a process-based understanding of resilience and collected longitudinal data in a larger sample size than the previous studies.

Dynamic Process of Psychological Resilience

To regard a program as a resilience-building program, it should meet some minimal criteria (IJntema et al., 2019). For example, a model should be provided depicting the dynamic process by which people adapt to a stressor, and it should be clarified which elements in the process are targeted in the program. The process model we used (see Figure 1) is based on Bonanno and colleagues' (2015) framework, which consist of four elements. As can be seen from Figure 1, *baseline* or *prestressor* adjustment functions as a set point for interpreting the outcome of the process of resilience (Bonanno et al., 2015). A *stressor* is the stimulus that is needed to trigger the process of

Figure 1
Dynamic Process Model of Psychological Resilience
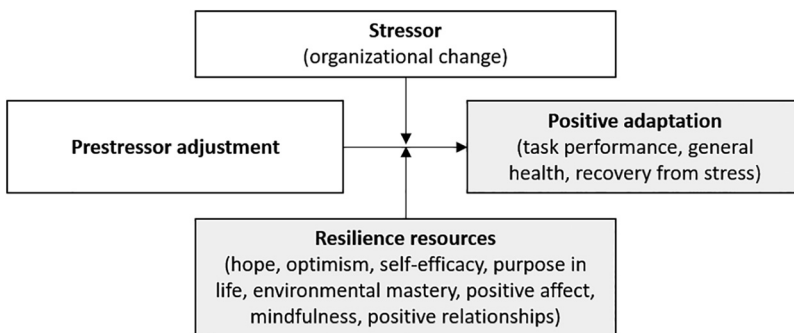
psychological resilience (Fletcher & Sarkar, 2013). A constellation of *predictive factors*—also known as *protective factors*, *promoting factors*, *adaptive factors*, and *resources* (Fletcher & Sarkar, 2013; Masten, 2014)—protect people against the stressor or enable them to adapt to the stressor. *Poststressor adjustment* or *positive adaptation* is regarded as the visible manifestation of resilience (Fisher et al., 2019). Together, these four elements explain how employees adapt to a stressor such as organizational change (Bonanno et al., 2015).

From a process-based perspective, there are several ways to resilience building: (a) improving prestressor adjustment, (b) reducing the severity or duration of the stressor, and (c) enhancing resilience resources (see Figure 1). In the work context, the most common approach is resource building (Vanhove et al., 2016). This approach was also used in the ResilienceWise program. To investigate the effectiveness of the ResilienceWise program, we measured both resilience resources and positive adaptation (shaded gray in Figure 1). As the program was executed during organizational change (stressor), it was not possible to collect data on prestressor adjustment. In the following text, we subsequently explain which resources and which indicators of positive adaptation were selected in the current study.

Resilience Resources

We define *resilience resources* as "influences that modify, ameliorate, or alter a person's response to some environmental hazard that predisposes to a maladaptive outcome" (Rutter, 1985, p. 600). Building resources is important because they enable individuals to adapt to the circumstances they encounter, either by protecting them against harm or promoting adaptation (Fletcher & Sarkar, 2013). According to the conservation of resources theory (Hobfoll, 1989), people generally strive to retain, protect, and build resources. Stressful circumstances, such as organizational change, are known to hinder this process and could cause depletion of people's resources. Therefore, it is important to protect people against resource loss and promote resource building during stressful times.

Resilience resource-building programs typically focus on resources that are psychosocial and malleable (Masten, 2014; Vanhove et al., 2016). For both empirical and practical reasons, we selected eight resources as the focus of the ResilienceWise program: hope, optimism, self-efficacy, purpose in life, environmental mastery, positive affect, mindfulness, and positive relationships (for definitions, see Table 1). Our empirical reasons were that these resources were most commonly selected in other resilience resource-building programs (Vanhove et al., 2016), demonstrated a large effect in previous resilience studies (Lee et al., 2013), or were part of the short-list of widely reported factors associated with resilience (Masten, 2014). Our practical reason was that the selected resources—except hope and self-efficacy—were part of the online, self-help, psychological fitness program Psyfit (Bolier et al., 2013), which we used to make the ResilienceWise program more cost-effective. The specific aim of the ResilienceWise program was to enhance the eight aforementioned resources in employees during stressor exposure, that is, organizational change. We measured these resources immediately after the program ended and at the 3-month follow-up (see the following section for an explanation of this follow-up period). We formulated the following hypotheses:

> *Hypothesis 1:* (H1a) and (H1b)—The ResilienceWise program has a (H1a) positive immediate and (H1b) long-term effect on hope, optimism, self-efficacy, purpose in life, environmental mastery, positive affect, mindfulness, and positive relationships in the experimental group compared with a comparison group during organizational change.

Positive Adaptation

By enhancing resilience resources, we expected that the ResilienceWise program would also impact positive adaptation (see Figure 1). This outcome should ideally be measured by the end of stressor exposure (organizational change). We were unable to accomplish this because it was uncertain when the change would take effect. Instead, we negotiated a follow-up period of 3 months. This was the maximum period that was feasible within the organization. At follow-up measurement, the

Table 1
Definitions of the Study Outcome Variables by Category

Variable	Definition
	Resilience resources
Hope	"The perceived capability to derive pathways to desired goals, and motivate oneself via agency thinking to use those pathways" (Snyder, 2002, p. 249)
Optimism	"The extent to which people hold generalized favorable expectancies for their futures" (Carver et al., 2010, p. 879)
Self-efficacy	A judgment of one's ability to organize and execute courses of actions to produce expected outcomes (Bandura, 1997)
Purpose in life	The belief that one's life has direction and meaning (Ryff, 1989)
Environmental mastery	"The capacity to manage effectively one's life and surrounding world" (Ryff & Keyes, 1995, p. 720)
Positive affect	The experience of pleasurable feelings in response to a job (Van Katwyk et al., 2000)
Mindfulness	"A receptive attention to and awareness of present moment events and experiences" (Brown et al., 2007, p. 212)
Positive relationships	"The possession of quality relations with others" (Ryff & Keyes, 1995, p. 720)
	Indicators of Positive adaptation
Task performance	"The proficiency (i.e., competency) with which one performs central job tasks" (Koopmans et al., 2011, p. 858)
General health	The extent to which symptoms that are associated with mental illnesses are absent in a person (Goldberg, 1972)
Recovery	"The ability to bounce back or recover from stress" (Smith et al., 2008, p. 194)

stressor was still present for study participants. This implies that we measured direct and follow-up effects of the ResilienceWise program *during* stressor exposure.

To measure positive adaptation, we chose three indicators: task performance, general health, and recovery from stress (for definitions, see Table 1). These are suitable for the work context and are regarded as indicators of sustainable employability that allow employees to continue to make a valuable contribution through their work while safeguarding their health and well-being (Van der Klink et al., 2016). We formulated the following hypotheses:

Hypothesis 2: (H2a) and (H2b)—The ResilienceWise program has a (H2a) positive immediate and (H2b) long-term effect on task performance, general health, and recovery from stress in the experimental group compared with a comparison group during organizational change.

Coach–Client Working Relationship

In the current study, we went beyond raising the question of whether the ResilienceWise program worked, and assuming it did, we investigated what made it work. Because the program was delivered one-on-one (coaching), we included the strength of the relationship between the coach and program participant as a factor that could be related to program effectiveness. We included this specific factor because it is considered a key factor contributing to change in any professional helping relationship (Bordin, 1979; Graßmann et al., 2020) such as coaching (Baron & Morin, 2009; De Haan et al., 2016; Graßmann et al., 2020) and therapy (Horvath et al., 2011; Horvath & Symonds, 1991). Relationship strength is characterized by three features: the bond that the coach and client develop, their mutual agreement on goals to be achieved, and their agreement on the assignments to reach these goals (Bordin, 1979). To the best of our knowledge, relationship strength has not been included in studies on the effectiveness of resilience-building programs before. We formulated the following hypothesis:

Hypothesis 3: In the experimental group, relationship strength is positively related to (changes in) resilience resources and to (changes in) positive adaptation immediately after completion of the ResilienceWise program.

Method

Design

The present study was a quasi-experimental field study that used a mixed 2 (experimental and comparison group) $\times$ 3 (time: pretest, posttest, follow-up) design. We could not randomly assign participants into an experimental and control group, because the ResilienceWise program was intended for all employees in a specific department. Therefore, employees from another department acted as the comparison group. We could not use a waitlist control group, because of the spillover effect of an open exchange of information between employees within the targeted department. Dependent variables were eight resilience resources—hope, self-efficacy, optimism, purpose in life, environmental mastery, positive affect, mindfulness, and positive relationships—and three indicators of positive adaptation—task performance, recovery, and general health. The experimental and comparison groups were rated on the dependent variables 2 weeks before the start of the program (pretest), immediately after (posttest) the program, and 3 months after (follow-up) the program. Figure 2 shows the number of participants in the experimental and comparison groups at each time point as well as the response and dropout rates.

Participants and Procedure

Experimental Group

Office workers with at least a 1-year contract ($n = 241$) of a health-care department in a large Dutch insurance company were invited by the department manager to participate in the ResilienceWise

Figure 2
Flow of Participants
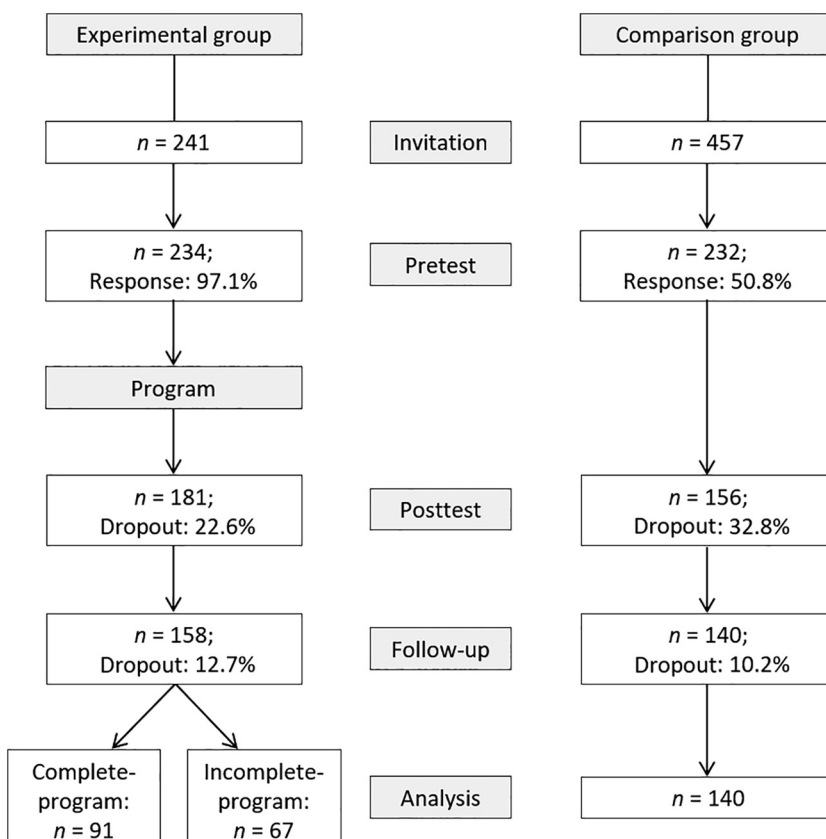
program. The core task of these office workers was to arrange care for or provide care budgets to clients. They received a brochure about the program and were invited to a question-and-answer session to ensure that they understood the motive, aims and content of the program, the required time and effort on their part, and the expected results. Employees were encouraged by their team leaders to give the program a chance and to attend at least the first coaching session. Of the total number of employees, 97.1% responded to this invitation. Employees who did not want to take part in the program were asked to give their reasons to their team leader. They gave the following reasons: transfer to another department or did not feel a need for the program.

Three weeks before the start of the program, employees were invited by the program coordinator to register by choosing—based on the profile descriptions—one of nine external coaches, all of whom were licensed psychologists selected specifically for this program. Selection criteria for coaches were as follows: being a registered psychologist with the Dutch Association of Psychologists, having completed professional coaching training, and at least 5 years' coaching experience. All selected coaches were women between the ages of 30 and 56 years. Before the start of the program, coaches received the program manual and attended a 3-day training course to equip them with an understanding of the program. During the program, coaches received formal coaching supervision by an experienced coaching psychologist.

After registration, the participants received an invitation for the first coaching session. Prior to this session they completed an online assessment. The research questions were part of this assessment (pretest). Participants were informed that their anonymized data would be used for research purposes and to indicate if they had any objection. The estimated time to complete the full assessment was 40 min. Of the invited participants, 234 completed the first questionnaire and started the program; 158 participants completed the questionnaires at all time points. As a token of appreciation, these 158 participants received the book *Mental Fitness* (Bolier et al., 2010) and continued to have access to the Psyfit program for another 6 months. Participants were not informed about these gifts beforehand. The total dropout rate was 32.5%. Reasons for dropout were termination of employment, transfer to another department, maternity leave, and participants' perception that the program did not meet their individual needs.

The program consisted of four coaching sessions and two online modules (see the Resilience-Wise Program section). Ninety-one participants completed the full program. This *complete-program group* constituted our experimental group. To tests our hypotheses, the results of this group were compared with a *no-program comparison group* (see the following section for details). Sixty-seven participants did not complete all program elements. They attended all coaching sessions but did not make the online modules or only one of two. We refer to this group as the *incomplete-program group*. We mention this group because we conducted additional analyses for it (see the section entitled "Additional Analyses for Incomplete-Program Group").

Comparison Group

To avoid a spillover effect, 457 office workers who did not work at the same health-care department as the experimental group were approached to be the no-program comparison group. These employees were facing the same merger as employees in the experimental group but were not facing changing governmental policies. Employees in the comparison group were asked to participate in a study on psychological resilience. Our study questionnaires were included in a larger survey—an extension of the annual Periodic Medical Examination—measuring (changes in) employees' mental health. Employees in the comparison group received their questionnaires at the same time points as the experimental group. Of the 457 employees, 232 agreed to participate in the study and completed the first questionnaire. The other 225 employees did not respond to the (repeated) invitation, had no time to participate, or had other priorities. A total number of 140 employees completed the questionnaires at all time points. As a token of appreciation, they received the book *Mental Fitness* (Bolier et al., 2010) and 1-year access to Psyfit. The total dropout rate in the comparison group was 39.6%. Two unfortunate things occurred: (a) We were unable to contact all participants because the company had changed the email addresses of their employees, and (b) some participants could not fill

out the questionnaire as their work computers stopped supporting Java, which was needed to display the questionnaire. Also, some employees were terminated or changed jobs.

ResilienceWise Program

The resilience-building program ResilienceWise was developed by a consultancy firm on behalf of a large Dutch insurance company. The target group was the experimental group. The stressor they were facing concerned changing governmental policies which posed a threat to the existence of this department. In addition, the company was in the process of a merger. As a consequence, employees experienced changes in their work environment and working conditions, such as new team leaders and senior managers, team composition change, shifting tasks, downsizing, and transfers to different departments. The general aim of the ResilienceWise program was to enhance psychological resilience. The specific aim was to enhance resilience resources in employees, which—over time—should enhance positive adaptation (see Figure 1). By building resources, the company hoped to (a) shift the attention of employees away from the negative effects of the changing work context; (b) help them become more resourceful, efficacious, and adaptive; and (c) help them to take greater responsibility to handle uncertainty and change on an ongoing basis.

The ResilienceWise program took place over a period of 13 weeks and consisted of an initial assessment, four 1-hr individual coaching sessions planned every 4 weeks, and two modules in the evidence-based online, self-help, psychological fitness program Psyfit (Bolier et al., 2013). Prior to the first coaching session, participants completed the assessment and received an individual feedback report by email detailing how they scored on the resilience resources. During the first session, the coach helped participants to (a) understand the results of the assessment, (b) choose which resources to focus on during the program, and (c) set personal goals for resource enhancement to tailor the program to their individual needs. During the second and third session participants evaluated their progress, adjusted personal goals if necessary, and formulated action steps to support goal attainment and resource building between sessions. During the last session, participants reflected to what extent they had achieved their goals, drafted an action plan to support resource building in the future, and evaluated the coaching process.

To support resource building between coaching sessions, participants were requested to complete two Psyfit modules as "homework"—one between the first and second sessions and the other between the second and third sessions. Participants could choose from among six modules: personal goal setting, positive emotions, positive relationships, mindfulness, optimistic thinking, and mastering your life (Bolier et al., 2013; Walburg, 2008). To get access to Psyfit, participants received an email with a personal username and password. Each Psyfit module contained four lessons, one per week. Each lesson consisted of psychoeducation and practical evidence-based exercises (for a detailed description of Psyfit, see Bolier, 2015). Each week, participants received an email notifying them about the next lesson. The time to complete one module was 1 to 2 hr, depending on personal investment.

Measures

Reliability coefficients for each measure in the current study are reported on the diagonal in Table 2.

Resilience Resources

Hope was measured using the Dutch translation (Ouweneel, 2012) of the 6-item State Hope Scale (Snyder et al., 1996). We adapted the items to reflect work-related hope (e.g., "At the present time, I am energetically pursuing my *work* goals"). Participants rated each item on a 6-point Likert scale ranging from *completely disagree* (1) to *completely agree* (6). A high score indicates that a participant proactively generates pathways to accomplish work-related goals.

Optimism was measured using the Dutch translation (Peters et al., 2013) of a revised, 6-item Life Orientation Test (Scheier et al., 1994). We adapted the items to reflect work-related optimism, for example, "In uncertain times *at work*, I usually expect the best." Participants rated each item on a 6-point Likert scale ranging from *completely disagree* (1) to *completely agree* (6). A high score indicates that a participant has a positive future expectancy at work.

Table 2
Correlations and Reliability Coefficients for Study Variables at Posttest Measurement

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Hope	**.86**											
2. Optimism	.44***	**.73**										
3. Self-efficacy	.74***	.50***	**.81**									
4. Environmental mastery	.53***	.49***	.49***	**.80**								
5. Purpose in life	.59***	.45***	.52***	.75***	**.81**							
6. Positive affect	.57***	.37***	.49***	.59***	.60***	**.88**						
7. Mindfulness	.28***	.28***	.26***	.41***	.33***	.30***	**.86**					
8. Positive relationships	.30***	.30***	.26***	.64***	.51***	.30***	.28***	**.82**				
9. Task performance	.64***	.27***	.53***	.35***	.38***	.27***	.15*	.23***	**.87**			
10. Recovery	.42***	.49***	.47***	.53***	.40***	.48***	.27***	.35***	.30***	**.84**		
11. General health	.37***	.37***	.36***	.55***	.42***	.46***	.32***	.28***	.15*	.42***	**.82**	
12. Working relationship	.37***	.29**	.28***	.38***	.38***	.44***	.17	.17	.42***	.31**	.33**	**.90**

Note. For all variables, $n = 231$ (complete-program group and comparison group combined), except for working relationship ($n = 91$), which was measured only in the complete-program group. The Cronbach's alpha reliability coefficients are shown on the diagonal in bold.
* $p < .05$. ** $p < .01$. **** $p < .001$.

Self-efficacy was measured using the 5-item General Work Efficacy Scale (Ouweneel, 2012). A sample item is, "I can always manage to solve difficult problems at work if I try hard enough." Participants rated each item on a 6-point Likert scale ranging from *completely disagree* (1) to *completely agree* (6). A high score indicates that a participant has confidence in his capabilities to succeed at challenging tasks.

Environmental mastery was measured using the corresponding 6-item dimension of the Amsterdam Wellbeing Scale (AWS; Van Dierendonck, 2004). The AWS is the Dutch translation of the Scales of Psychological Well-Being (Ryff, 1989). A sample item of this dimension is, "In general, I feel I am in charge of the situation in which I live." Participants rated each item on a 6-point Likert scale ranging from *completely disagree* (1) to *completely agree* (6). A high score indicates that a participant feels effective in dealing with their environment.

Purpose in life was measured using the corresponding 6-item dimension of the AWS (Van Dierendonck, 2004). A sample item is, "I enjoy making plans for the future and working to make them a reality." Participants rated each item on a 6-point Likert scale ranging from *completely disagree* (1) to *completely agree* (6). A high score indicates that a participant has a high sense of purpose and meaning in life.

Positive affect was measured using the Dutch 6-item version (Schaufeli & Van Rhenen, 2006) of the positive emotions dimension of the Job-Related Affective Well-Being Scale (JAWS; Van Katwyk et al., 2000). A sample item is, "In the past months, my job made me feel energetic." Participants rated each item on a 5-point Likert scale ranging from *never* (1) to *often* (5). A high score indicates that a participant experiences positive emotions at work.

Mindfulness was measured using the Dutch 6-item version (Schroevers et al., 2008) of the Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2003). A sample item is, "I find it difficult to stay focused on what's happening in the present." Participants rated each item on a 6-point Likert scale ranging from *almost always* (1) to *almost never* (6). A high score indicates that a participant has attention to and awareness of what is occurring in the present.

Positive relationships was measured using the corresponding 6-item dimension of the AWS (Van Dierendonck, 2004). A sample item is, "I know that I can trust my friends and they know that they can trust me." Participants rated each item on a 6-point Likert scale ranging from *completely disagree* (1) to *completely agree* (6). A high score indicates that a participant has high-quality, satisfying, trusting relationships with other people.

Positive Adaptation

Task performance was measured using the Dutch translation (Reijseger et al., 2016) of the 9-item Task Performance Questionnaire (Goodman & Svyantek, 1999). In the Dutch translation, the items are adapted to measure self-reported performance. A sample item is, "I fulfill all the requirements of my job." Participants answered on a 5-point Likert scale ranging from *completely disagree* (1) to *completely agree* (5). A high score indicates that a participant carries out activities at work that are formally required for the job.

Recovery was measured using the Dutch translation (Leontjevas et al., 2014) of the 6-item Brief Resilience Scale (Smith et al., 2008). We adapted the items to reflect work-related recovery, for example, "I tend to bounce back quickly after hard times *at work*." Participants answered on a 6-point Likert scale ranging from *completely disagree* (1) to *completely agree* (6). A high score indicates that a participant can recover from stress at work.

General Health was measured using the Dutch translation (Koeter & Ormel, 1991) of the 12-item version of the General Health Questionnaire (GHQ-12; Goldberg, 1972). A sample item is, "Have you recently felt you could not overcome your difficulties?" Participants answered on a 4-point Likert scale ranging from *not at all* (1) to *much more than usual* (4). The GHQ can be scored in different ways (Koeter & Ormel, 1991). In this study, we used Likert-scoring. A high score indicates that a participant is not experiencing psychological distress.

Strength of the Coach–Client Working Relationship

Relationship strength was measured using the unpublished Dutch translation (Waringa & Ribbers, 2011) of the 12-item Working Alliance Inventory short form for coaching (WAI-SC; Baron & Morin, 2009). A sample item is, "My coach and I have developed mutual trust." Only participants

in the experimental group rated each item at posttest measurement on a 7-point Likert scale ranging from *never* (1) to *always* (7). A high score indicates a strong working relationship.

Data Analysis

Data were analyzed using SPSS 24 (IBM Corporation, 2016). Because we were unable to randomly assign participants to the experimental and comparison group, we conducted preliminary analyses to examine whether these groups were similar. To that purpose, we conducted independent *t* tests to check for possible group differences in age, years in function, years in organization, and the dependent variables at pretest. We conducted chi-square tests to check for possible group differences in gender, marital status, education, tenure, and management position. In addition, we conducted similar tests to check for differences among participants in (a) the complete-program group and those who dropped out of the program, (b) the comparison group and those who dropped out of this group; and (c) the incomplete-program group versus those in the complete-program and comparison group.

To investigate whether the complete-program compared with no-program had an overall effect on resilience resources (H1) and on positive adaptation (H2), we conducted 2 (group) × 3 (time) repeated-measures multivariate analyses of variances (RM-MANOVA) on the combined resources and on the combined indicators of positive adaptation, respectively, with time as a within-subject factor and group as a between-subjects factor. RM-MANOVA provides answers about whether (a) the complete-program and comparison group differed significantly on resources and on positive adaptation (main effect of group); (b) the combined scores of both groups on resources and on positive adaptation changed significantly over time (main effect of time); and, most important for our hypotheses, (c) resources and positive adaptation changed differently for each group over time (Time × Group interaction effect). Univariate analyses were included in the RM-ANOVA to investigate whether significant Time × Group interaction effects on each separate dependent variable concerned immediate effects (H1a and H2a) or long-term effects (H1b and H2b).

To test H3 that relationship strength as reported by the complete-program group is positively related to (changes in) resilience resources and to (changes in) positive adaptation at posttest measurement, we conducted hierarchical regression analyses. In Step 1, we entered a specific resilience resource or indicator of positive adaptation at pretest measurement as covariate that tests the effect of the complete program on the identical dependent variable at posttest measurement. In Step 2, we added relationship strength as the predictor to test whether it contributed significantly to the regression of the dependent variable at posttest measurement for the complete-program group.

Results

Preliminary Analyses

The complete-program group (*n* = 91) consisted of 69% women, 71% living with a partner, 40% higher educated (college or university degree), 81% permanently employed, and 13% managers. The average age was 42 years. Participant in this group worked on average for 14 years in the company and 4.8 years in the same function. Compared with the comparison group (*n* = 140), the complete-program group differed significantly on gender, education, and employment: The complete-program group consisted of more women, $\chi^2(1) = 8.96$, $p < .01$; fewer higher educated employees, $\chi^2(1) = 10.58$, $p < .01$; and fewer permanently employed employees, $\chi^2(1) = 5.88$, $p < .05$. As can be seen in Table 3, the complete-program and comparison group did not differ when it comes to the dependent variables at pretest measurement, except for self-efficacy and mindfulness: Compared with the comparison group, participants in the complete-program group scored significantly lower on self-efficacy ($t = -2.25$, $p < .05$) and on mindfulness ($t = -2.32$, $p < .05$) at pretest measurement.

Two dropout analyses were executed: one for the complete-program group and one for the comparison group. All participants who provided self-ratings at pretest measurement were split into two groups: those who had provided information for all times and those who had not. The first dropout analysis revealed that the dropouts from the complete-program group (*n* = 76) contained fewer

Table 3
Means and Standard Deviations of the Study Outcome Variables for Three Groups

Variable	Complete-program group (n = 91)						No-program comparison group (n = 140)						Incomplete-program group (n = 67)					
	Pretest		Posttest		Follow-up		Pretest		Posttest		Follow-up		Pretest		Posttest		Follow-up	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Resilience resources																		
Hope	4.45	0.66	4.81	0.57	4.80	0.56	4.54	0.64	4.61	0.64	4.57	0.70	4.53	0.75	4.70	0.69	4.63	0.61
Optimism	4.44	0.66	4.53	0.67	4.47	0.72	4.45	0.69	4.47	0.64	4.39	0.71	4.53	0.57	4.53	0.59	4.44	0.67
Self-efficacy	4.42	0.52	4.70	0.55	4.71	0.57	4.59	0.61	4.62	0.58	4.57	0.64	4.54	0.66	4.60	0.71	4.55	0.64
Environmental mastery	4.68	0.72	4.86	0.62	4.85	0.68	4.73	0.75	4.75	0.69	4.72	0.72	4.68	0.64	4.73	0.71	4.75	0.67
Purpose in life	4.32	0.74	4.73	0.66	4.66	0.73	4.45	0.76	4.48	0.73	4.47	0.76	4.37	0.81	4.57	0.74	4.60	0.76
Positive affect	4.08	0.62	4.33	0.65	4.21	0.67	4.01	0.62	4.06	0.61	3.86	0.74	3.96	0.64	4.13	0.69	4.02	0.79
Mindfulness	4.54	0.64	4.71	0.67	4.72	0.61	4.75	0.65	4.79	0.58	4.74	0.66	4.58	0.71	4.74	0.75	4.70	0.78
Positive relationships	4.57	0.82	4.72	0.82	4.69	0.88	4.66	0.74	4.64	0.78	4.60	0.82	4.63	0.73	4.72	0.77	4.70	0.80
Positive adaptation																		
Task performance	3.88	0.42	3.95	0.42	3.94	0.42	3.93	0.50	3.91	0.51	3.81	0.50	3.84	0.54	3.92	0.46	3.83	0.53
Recovery	3.96	0.81	4.25	0.83	4.21	0.77	4.08	0.82	4.14	0.74	4.10	0.79	4.09	0.80	4.22	0.89	4.17	0.84
General health	3.11	0.46	3.28	0.37	3.28	0.40	3.14	0.46	3.18	0.37	3.12	0.42	3.16	0.37	3.26	0.49	3.21	0.45
Working relationship			5.85	0.75					5.53	0.82					5.53	0.82		

managers, $\chi^2(1) = 4.32$, $p < .05$, than the participants in the complete-program group and that they scored significantly higher on self-efficacy ($t = -2.14$, $p < .05$), recovery ($t = -3.49$, $p < .01$), and mindfulness ($t = -2.54$, $p < .05$), indicating that they probably had less need for the program. No differences were found on the other demographic and dependent variables at pretest measurement. The second dropout analysis revealed no differences between participants in the comparison group and the dropouts in this group ($n = 92$) on the demographic and dependent variables at pretest measurement.

Immediate and Long-Term Effects on Resilience Resources

It was hypothesized that the ResilienceWise program would enhance resilience resources in the complete-program group compared with the comparison group immediately after (H1a) and 3 months after the program (H1b). Table 3 shows the means and standard deviations of the dependent variables for these groups at three time points, (the results for the incomplete-program group are explained in the section entitled "Additional Analyses for Incomplete-Program Group"), and Table 2 shows the correlations between the study variables at posttest measurement. RM-MANOVA demonstrated an overall significant main effect of group, $F(8, 222) = 2.82$, $p < .01$, $\eta_p^2 = .092$; a main effect of time, $F(16, 214) = 5.67$, $p < .001$, $\eta_p^2 = .298$; and a Time $\times$ Group interaction effect, $F(16, 214) = 3.58$, $p < .001$, $\eta_p^2 = .211$, on resilience resources.

Table 4 shows the univariate effects for each separate resource. We found significant Time $\times$ Group interaction effects on hope, self-efficacy, environmental mastery, purpose in life, positive affect, and positive relationships. The immediate and long-term effects on these resources were also significant. The effect sizes were small to medium. To illustrate our findings, we visualized the results for purpose in life, which had the highest effect size (see Figure 3). Except for positive affect, the significant effects were in the expected direction: The average scores in the complete-program group increased, whereas the average scores of the comparison group remained relatively stable across time (see Table 3). The long-term effect on positive affect might be explained by a decline in scores of the comparison group. We found no Time $\times$ Group interaction effects for optimism and mindfulness (see Table 4). Compared with pretest measurement, the average scores on these resources increased immediately after the program but did not reach statistical significance (see Table 3). Therefore, we did not look at the immediate and long-term effects. Hypotheses 1a and 1b were partially confirmed.

Immediate and Long-Term Effects on Positive Adaptation

It was hypothesized that the ResilienceWise program would enhance positive adaptation in the complete-program group compared with the comparison group immediately after the program (H2a) and at 3-month follow-up (H2b). RM-MANOVA demonstrated no significant main effect of group, $F(3, 227) = 1.19$, $p = ns$, $\eta_p^2 = .016$); an overall significant main effect of time, $F(6, 224) = 5.04$, $p < .001$, $\eta_p^2 = .119$; and Time $\times$ Group interaction effect, $F(6, 224) = 3.12$, $p < .01$, $\eta_p^2 = .077$, on positive adaptation.

Table 4 shows the univariate effects for each separate indicator of positive adaptation. We found significant Time $\times$ Group interaction effects on all indicators. Table 4 also shows the immediate and long-term effects. We found significant positive immediate and long-term effects on recovery and general health, and a long-term effect on task performance, the latter probably due to a decline in score on task performance of the comparison group (see Table 3). The effect sizes were small. H2a and H2b were partially confirmed.

Strength of the Working Relationship

For the complete-program group, it was hypothesized that relationship strength would be positively related to (immediate changes in) the resilience resources and to (immediate changes in) positive adaptation (H3). To test this hypothesis, we conducted hierarchical regression analyses. Table 5 shows that relationship strength significantly contributed to the effect on hope, optimism, self-efficacy,

Table 4

Univariate Effects on the Dependent Variables for the Complete-Program and Comparison Group Across the Three Time Points

Variable	Main effect of group		Main effect of time		Time × Group interaction effect		Time × Group interaction for immediate effects (posttest vs. pretest)		Time × Group interaction for long-term effects (follow-up vs pretest)	
	$F(1, 229)$	η_p^2	$F(2, 458)$	η_p^2	$F(2, 458)$	η_p^2	$F(1, 229)$	η_p^2	$F(1, 229)$	η_p^2
Resilience resources										
Hope	2.28	.010	20.24***	.081	11.91***	.049	16.99***	.069	18.02***	.073
Optimism	0.33	.001	1.47	.006	0.50	.002				
Self-efficacy	0.07	.000	11.32***	.047	10.66***	.044	15.00***	.061	16.63***	.068
Environmental mastery	0.59	.003	5.02**	.021	4.12*	.018	6.60*	.028	5.89*	.025
Purpose in life	1.25	.005	19.94***	.080	15.16***	.062	27.01***	.105	15.34***	.063
Positive affect	9.29**	.039	10.17***	.043	6.93**	.029	9.69**	.041	10.56**	.044
Mindfulness	2.05	.009	3.93*	.017	2.63	.011				
Positive relationships	0.09	.000	1.70	.007	4.12*	.018	7.12**	.030	6.23*	.026
Positive adaptation										
Task performance	0.48	.002	2.35	.010	5.51**	.024	3.59	.015	8.87**	.037
Recovery	0.15	.001	8.96***	.038	4.66*	.020	6.35*	.027	7.03**	.030
General health	2.90	.013	6.23**	.026	5.45**	.023	4.52*	.019	8.41**	.035

Note. Univariate analyses were included in the RM-ANOVA. The results in this table show whether significant Time × Group interaction effects on each separate dependent variable concerned immediate effects (Hypotheses 1a and 2a) or long-term effects (Hypotheses 1b and 2b).
* $p < .05$. ** $p < .01$. *** $p < .001$.

Figure 3

Mean Scores on Purpose in Life Across Groups Over Time
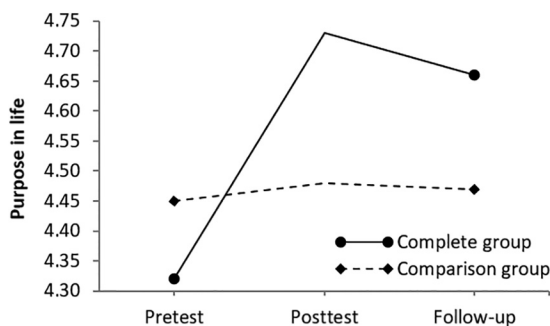
environmental mastery, purpose in life, positive affect, task performance, recovery, and general health but not on mindfulness and positive relationships.[2] H3 was partially confirmed.

Additional Analyses for Incomplete-Program Group

A large number of participants (n = 67) did not complete the ResilienceWise program. They attended the four coaching sessions but did not adhere to Psyfit. We conducted additional analyses to examine whether the incomplete program was as effective as the complete program. To that purpose, we examined whether the incomplete-program group differed from the complete-program and comparison group. In addition, we tested our three hypotheses for the incomplete-program group compared with the comparison group.

Group Differences

The incomplete-program group consisted of 60% women, 69% living with a partner, 34% higher educated (college or university degree), 84% permanently employed, and 6% managers. The average age was 40 years. Participants in this group worked on average for 11 years in the company and 4.7 years in the same function. With respect to these demographic variables, the incomplete-program group did not differ significantly from the complete-program group. Compared with the comparison group, the incomplete-program group differed significantly on marital status, education, and employment: The incomplete-program group consisted of fewer employees living with a partner, $\chi^2(1)$ = 4.21, p < .05; more lower educated employees, $\chi^2(1)$ = 13.35, p < .001; and more temporary employed employees, $\chi^2(1)$ = 5.88, p < .05. When it comes to the dependent variables at pretest measurement in Table 3, we found no significant differences between the incomplete-program and complete-program groups and no differences between the incomplete-program and comparison groups.

Effects on Resilience Resources

To test whether the ResilienceWise program would enhance resilience resources in the incomplete-program group compared with the comparison group, we conducted a RM-MANOVA on the eight resources with the group as the between-subjects factor and time as the within-subjects factor. RM-MANOVA demonstrated an overall significant positive main effect of time on resilience resources, $F(16, 190)$ = 3.09, p < .001, η_p^2 = .207. No significant main effect of group or Time × Group

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[2]For the complete-program group, we found significant differences between coaches regarding strength of working relationship. Therefore, we repeated the hierarchical regression analyses with the coaches as a covariate. This had no meaningful effect on the results regarding H3. The significant effects reported in Table 3 continued to be significant. Data analyses are available on request from the corresponding author.

Table 5

Hierarchical Regression Analysis Summary for Relationship Strength Predicting the Effect of the Complete-Program on the Dependent Variables at Posttest Measurement (n = 91)

Step 1 covariate	B	SE B	β	R^2	Step 2 predictor	B	SE B	β	R^2
Hope pretest	0.50	0.07	.58***	.33***	Hope pretest	0.46	0.07	.54***	.43***
					Working relationship	0.23	0.06	.31***	
Optimism pretest	0.50	0.09	.49***	.24***	Optimism pretest	0.48	0.09	.47***	.30***
					Working relationship	0.22	0.08	.25**	
Self-efficacy pretest	0.60	0.09	.56***	.31***	Self-efficacy pretest	0.59	0.09	.55***	.38***
					Working relationship	0.19	0.06	.27**	
Environmental mastery pretest	0.61	0.06	.71***	.50***	Environmental mastery pretest	0.57	0.06	.66***	.57***
					Working relationship	0.22	0.06	.27***	
Purpose in life pretest	0.58	0.07	.65***	.43***	Purpose in life pretest	0.54	0.07	.61***	.50***
					Working relationship	0.25	0.07	.28***	
Positive affect pretest	0.68	0.09	.65***	.42***	Positive affect pretest	0.63	0.08	.60***	.54***
					Working relationship	0.31	0.06	.36***	
Mindfulness pretest	0.37	0.10	.35**	.12**	Mindfulness pretest	0.36	0.10	.35**	.15**
					Working relationship	0.14	0.09	.15	
Positive relationships pretest	0.85	0.06	.85***	.73***	Positive relationships pretest	0.84	0.06	.85***	.73***
					Working relationship	0.04	0.06	.04	
Task performance pretest	0.60	0.09	.59***	.35***	Task performance pretest	0.55	0.08	.55***	.47***
					Working relationship	0.19	0.04	.34***	
Recovery pretest	0.55	0.09	.53***	.28***	Recovery pretest	0.52	0.09	.50***	.34***
					Working relationship	0.27	0.10	.25**	
General health pretest	0.32	0.08	.40***	.16***	General health pretest	0.31	0.07	.39***	.26***
					Working relationship	0.15	0.05	.31**	

** $p < .01$.   *** $p < .001$.

interaction effect was found on resilience resources. Therefore, we did not look at the univariate effects. Our findings indicated that the incomplete program compared with no program was not effective when it comes to enhancing resilience resources.[3]

Effects on Positive Adaptation

To test whether the ResilienceWise program would enhance positive adaptation in the incomplete-program group compared with the comparison group, we conducted a RM-MANOVA on the indicators of positive adaptation with group as the between factor and time as the within factor. RM-MANOVA demonstrated an overall significant positive main effect of time on positive adaptation, $F(6, 200) = 3.10$, $p < .01$, $\eta_p^2 = .085$. No significant main effect of group or Time × Group interaction effect was found on positive adaptation. Therefore, we did not look at the univariate effects. Our findings indicated that the incomplete program compared with no program was not effective when it comes to enhancing positive adaptation.[4]

Strength of the Working Relationship

We conducted hierarchical regression analyses to test whether the strength of the coach–client relationship in the incomplete-program group would be positively related to changes in resources and

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[3] We also conducted a RM-MANOVA to compare the complete-program and incomplete-program group on the resilience resources. No significant Time × Group interaction effect was found. Data analyses are available on request from the corresponding author.

[4] We also conducted a RM-MANOVA to compare the complete-program and incomplete-program group on positive adaptation. No significant Time × Group interaction effect was found. Data analyses are available on request from the corresponding author.

positive adaptation immediately after the program (see H3). We found significant results on opti-mism, task performance, and general health.[5] After comparing these results to those of the com-plete-program group, we assumed that relationship strength might predict whether a participant would finish the online modules in the ResilienceWise program. To test this assumption, we con-ducted logistic regression analyses with the two experimental groups (complete and incomplete) as the dependent variable and the resources, indicators of positive adaptation, and relationship strength as predictors. The results showed that relationship strength significantly predicted whether a partici-pant would finish the Psyfit modules ($B = .62$, $SE = .24$, $p < .05$, odds ratio [OR] = 1.85), as did pos-itive affect at pretest measurement ($B = .92$, $SE = .44$, $p < .05$, $OR = 2.51$).

Discussion

Research about the effectiveness of resilience-building programs in the work context is a relative new area of research (Robertson et al., 2015). Even newer is research about the effectiveness of these programs in the context of organizational change. The aim of the current study was to investi-gate the effectiveness of a new resilience-building program, ResilienceWise, in such a specific stressful context. We investigated to what extent this program enhanced both resilience resources and positive adaptation in office workers facing organizational change compared with a no-program comparison group. With respect to resilience resources, we found that the program enhanced hope, self-efficacy, environmental mastery, purpose in life, positive affect, and positive relationships in participants immediately after and 3 months after the program ended. We found no effects on mind-fulness and optimism. With respect to positive adaptation, we found that the program enhanced re-covery from stress and general health in participants immediately after and 3 months after the program ended. Task performance was only enhanced 3 months after the program ended because of a decline in task performance of the comparison group. The effect sizes were small to medium, which is quite common in programs that are focused on prevention rather than treatment (Vanhove et al., 2016). These results demonstrate that resilience can be effectively enhanced during organiza-tional change, which is consistent with the results of two previous small pilot studies (Rogerson et al., 2016; Sherlock-Storey et al., 2013). These results are promising for employees in need of psy-chological resilience during organizational change.

The current study found the strongest effects on hope, purpose in life, and self-efficacy. Purpose in life emphasizes the belief that life has a direction (Ryff, 1989); hope emphasizes thinking about ways to achieve goals and the persistence to achieve these goals (Snyder, 2002); and self-efficacy emphasizes the belief in one's own abilities to achieve desired goals (Bandura, 1997). An explana-tion for these findings might be that these resources are particularly important during organizational change because change comes with uncertainty and enhances people's need for direction (Van den Heuvel, 2013). In line with the conservation of resources theory (Hobfoll, 1989), these enhanced resources might have subsequently enabled employees to better adapt to organizational change, as we found stronger effect sizes for positive adaptation at follow-up compared with posttest measure-ment. An explanation for the nonsignificant findings on work-related optimism might be that enhancing this resource is not the best strategy when the nature of change concerns a threat to job security. This might have prevented employees in the current study from being optimistic about their work. An explanation for the nonsignificant findings on mindfulness can be that mindfulness training requires more personal guidance, which is the case in Mindfulness-Based Stress Reduction training (Kabat-Zinn, 1990). Resilience-building programs in the work context that did demonstrate an effect on mindfulness included more guidance than our program did (Burton, Pakenham, & Brown, 2010; Pidgeon et al., 2014).

To go beyond merely investigating the effectiveness of the ResilienceWise program, we also investigated what made this program effective by including the strength of the coach–client working relationship as a factor explaining program outcomes. The current study showed that this factor was

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[5] Data analyses are available on request from the corresponding author.

positively related to changes in hope, optimism, self-efficacy, environmental mastery, purpose in life, positive affect, task performance, recovery, and general health but not to changes in mindfulness and positive relationships. These findings can be explained by social exchange theory: In a strong relationship, clients are more open to share uncertainties and work-related challenges, and they are more receptive to coach interventions; coaches are better attuned to their clients' needs and are better able to facilitate the change process (Graßmann et al., 2020). These exchanges are likely to foster desirable outcomes for clients. Hence, our findings extend the existing knowledge base that relationship strength is a consistent common factor related to coaching-program outcomes (De Haan et al., 2016; Graßmann et al., 2020). Researchers studying the effectiveness of resilience-building *coaching* programs should consider including this factor in their studies.

It should be noted that the current findings are based on a selection of participants that completed all elements of the ResilienceWise program. We did not include participants that did not (fully) adhere to the online modules even though they attended all face-to-face sessions. In online programs, such lack of adherence is quite common (Bolier et al., 2013), including an online resilience program (Abbott et al., 2009). To investigate to what extent the ResilienceWise program was effective for this incomplete-program group, we conducted additional analyses. We found no significant effects on resilience resources and positive adaptation. Hence, only the complete ResilienceWise program was effective.

Looking at these findings, one may wonder why only the complete program was effective. In the current study, we found two factors that partly explain this result: the strength of the relationship between the coach and the client, and positive affect at pretest measurement. Both factors predicted whether participants would adhere to the online Psyfit modules. The effect for positive affect can be explained by the broaden-and-build theory of positive emotions (Fredrickson, 2009). This theory suggests that positive emotions broaden a person's awareness and that this broadened awareness encourages them to try out new actions. Hence, positive affect might have contributed to participants being more open to try out the online modules. The effect on relationship strength could be explained by social exchange theory which we already elaborated on. The findings about relationship strength endorse the importance of including it as a factor in resilience-building coaching programs.

Limitations

One limitation of the current study was that it was not a randomized control trial (RCT). Without randomization, the experimental and comparison groups cannot be regarded as equivalent, which limits the internal validity of this study. Differences between the complete-program and comparison groups were found on gender, level of education, tenure, self-efficacy, and mindfulness. If we consider a high education, permanent employment, self-efficacy, and mindfulness as resources, then the complete-program group had less resources at the start of the program than the comparison group. A confounding variable that might have negatively affected the results of this study is the additional stressor that the experimental group experienced (changing governmental policies) over and above the merger that both groups were facing. Despite this limitation, we were able to create a between-group design, which is regarded as more rigorous than a within-group design (Vanhove et al., 2016); we recruited a large sample, enhancing the reliability of our findings; we gathered longitudinal data; and we conducted research in a natural setting, enhancing the external validity of our study.

Another limitation of this study—and most studies about the effectiveness of resilience-building programs (Baumeister & Alghamdi, 2015)—is that positive adaptation was measured by self-report measures. As the visible manifestation of the process of psychological resilience, positive adaptation is preferably measured by objective, behavioral measures, such as personnel data and other ratings (Britt et al., 2016). For logistical and ethical reasons, we did not include these measures: Organizing a large-scale effectiveness study during organizational change was logistically challenging enough by itself; employees and team leaders shifted positions, which interfered with collecting other ratings; and there was no trusted third-party procedure to secure confidentiality of personnel data. Without objective data, the effects of the program might be overestimated (De Haan et al., 2013),

reflecting some desire of individual participants to offer validation to the people who administered the program or some desire to rationalize the time and effort they themselves put into the program (Baumeister & Alghamdi, 2015).

A final limitation of this study is that we did not measure stressor load, which is currently advised in studies about the effectiveness of resilience-building programs (Chmitorz et al., 2018). Therefore, we do not know to what extent the organizational change affected program participants differently and how this has affected our study results.

Recommendations for Future Research

To date, the current and two other studies (Rogerson et al., 2016; Sherlock-Storey et al., 2013) have examined the effectiveness of resilience-building programs during organizational change. The results of these studies are promising. However, more research is needed. Therefore, we recommend that more research be conducted to establish the effectiveness of resilience-building programs during organizational change. Such studies are preferably set up as (a) longitudinal studies, (b) with randomized controlled designs, (c) using objective or behavioral measures to assess positive adaptation over time, such as personnel data and other ratings, and (d) control for stressor load. To successfully adopt a resource-based resilience-building strategy similar to the ResilienceWise program, implementers must be aware of the importance of selecting resources. In an ideal situation the selection would be based on a proper needs assessment and a review of the literature (Bartholomew Eldredge et al., 2016). However, the literature on resilience-building programs gives few clues about which resources are enhanced best (Robertson et al., 2015) and under what stressful circumstances (Vanhove et al., 2016). In the current study we believed that hope, self-efficacy, and purpose in life might be important during organizational change. Yet a better understanding is needed on the role that specific resources play in adapting to specific workplace stressors (Baumeister & Alghamdi, 2015). Therefore, the second area of research worth exploring concerns the role that specific resources play in adapting to organizational change: For example, which resources might get depleted by organizational change? This question could be examined by measuring specific resources before, during, and after change.

The third area of research worth exploring is that of the role of nonspecific factors in the effectiveness of resilience coaching. Nonspecific factors are those factors that are common to all approaches to coaching (De Haan et al., 2013). In this study we addressed the most consistent common factor found in the coaching literature: relationship strength. However, this is not the only common factor that has been identified in the literature. Other common factors worth investigating are client expectations, the coach's allegiance to their coaching approach, empathic understanding of the coach, and the client context (De Haan et al., 2013). This area of research might give new insights about which ingredients make resilience-building coaching programs effective.

Recommendations for Practice

To protect employees from the potential negative effects of organizational change, we recommend companies consider offering their employees a resilience-building program during organizational change. The current study showed that an effective resilience-building strategy in times of change might be to enhance personal resources of employees, especially hope, purpose in life, and self-efficacy. Based on the conservation of resources theory (Hobfoll, 1989), we argued that such resources might be under threat of depletion during organizational change and therefore need to be protected or even enhanced.

For program effectiveness, it is important to stimulate employees to adhere to the whole program. The current study showed that the ResilienceWise program was effective for those participants who finished the complete program, both the four coaching sessions and the two online Psyfit modules. The program was not effective for those participants who did adhere to the online modules. The current study showed that one key to enhance participants' commitment to between-session work is to enhance their positive affect. This implies that coaches

should be aware of the emotional state of their clients at the beginning of the program and support them in cultivating positive emotions. The positive psychology literature offers many options to accomplish this, for example by teaching clients gratitude exercises, positive writing, and loving-kindness meditation (Meyers et al., 2013; Sin & Lyubomirsky, 2009; Zeng et al., 2015). In addition, our study showed that a second key to enhance participants commitment to between-session work might be a strong coach–client working relationship. To contribute to a strong relationship, clients should be able to choose a coach who they feel they can best relate to (Graßmann et al., 2020). This was the case in the current study. In addition, coaches should evaluate the relationship with their clients constantly (Graßmann et al., 2020). A tool that coaches can use for this purpose is the Session Rating Scale (Duncan et al., 2003). We recommend coaches administer this short scale at the end of each coaching session, and we also recommend that they engage in coaching supervision to reflect on their ability to develop strong relationships (Graßmann et al., 2020). This might positively impact the strength of the working relationship, which in turn might positively impact program effectiveness.

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