Workplace coaching: Processes and effects
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CHAPTER 4

The Differential Effects of Solution-Focused and Problem-Focused Coaching Questions

“No problem can be solved from the same level of consciousness that created it”

– Albert Einstein

This chapter is based on:

In light of the complexity and fast-changing nature of our contemporary society, it is no surprise that people increasingly seek the assistance of a coach to help them to adapt and solve their problems (Theeboom et al., 2014). Coaching can be defined as “a result-oriented, systematic process in which the coach facilitates the enhancement of life experience and goal-attainment in the personal and/or professional lives of normal, non-clinical clients” (Grant, 2003, p. 254). Several positive effects of coaching on performance, well-being, coping, goal-attainment and work attitudes have been empirically demonstrated and confirmed in a meta-analysis on coaching in organizational and educational settings (Theeboom et al., 2014). To date, however, little is known about how these outcomes are attained. This is unfortunate, because insight into how coaching works is expedient for building a theoretically rich knowledge framework that can inform the development of both extant and new coaching interventions (Grant et al., 2010; Latham, 2007). In other words, knowledge pertaining to why coaching exerts positive effects can help coaches design more successful strategies.

One line of research that has provided some initial clues about how coaches can help people to attain positive outcomes is the research on Solution Focused (SF) coaching. SF coaching stems from a form of therapy called Solution Focused Brief Therapy (SFBT; De Shazer, 1988). In contrast to Problem-Focused (PF) approaches, the SF approach is based on the assumption that there is no fundamental imperative to engage in causal analysis of a problem in order to construct workable solutions (Berg & Szabo, 2006). Research shows that this approach can be effectively applied in a variety of settings (e.g., clinical settings, organizational settings and educational settings; Kim, 2007; Theeboom et al., 2014) and for a wide variety of populations such as primary school children (Kvarme et al., 2010), undergraduate students (Wehr, 2010) and high-level executives (Grant et al., 2009). Specifically, previous studies by Grant (2012b) and Wehr (2010) indicate that SF questions can enhance a coachee’s positive affect as well as prerequisites of effective self-regulation such as self-efficacy (i.e. the belief in one’s ability to succeed in specific situations; Bandura, 1977) and can effectively help coachees to solve their problems. Grant (2012b) also speculated about detrimental effects of PF questioning on negative affect, but did not find such effects in his experiment.

The present studies aims to both replicate and extend the studies by Grant (2012b) and Wehr (2010). Specifically, we aim to replicate the previous findings on the relationship between (SF or PF) question focus and both positive and negative affect while extending those studies by delving deeper into cognitive processes that could explain how specific coaching questions could enhance the problem solving
The Differential Effects of Solution-Focused and Problem-Focused Coaching

Questions

capabilities of coachees. Drawing on previous work on rumination (e.g., Koster, De Lissnyder, Derakshan, & De Raedt, 2011) and creative problem solving (e.g., Baas, De Dreu, & Nijstad, 2008) we predict that SF questions and PF questions have a differential impact on cognitive and affective processes that are crucial for effective problem solving: attentional control and cognitive flexibility.

Attentional control refers to the ability to regulate attention towards current and future needs (Rueda, Posner, & Rothbart, 2005) and is considered to be an important determinant of effective self-regulation (Baumeister et al., 1996). Attentional control may help the coachee to remain focused on finding solutions rather than ruminating about the problem at hand. Cognitive flexibility on the other hand, manifests itself in “divergent thinking, the use of broad and inclusive cognitive categories and relatively frequent switching among cognitive categories” (De Dreu, Nijstad, Baas, Wolsink, & Roskes, 2012, p. 658) and is considered to be an important antecedent of creative problem solving (Baas et al., 2008). Cognitive flexibility may allow the coachee to consider a broad arrange of strategies and solutions for his or her problems. We describe our theoretical framework and hypotheses development in detail below. Thereafter, we describe two experiments designed to test these hypotheses.

Question Focus and Affect

One of the most important and often-used tools that coaches can use in the coaching process is asking questions. Questions not only differ in their form (e.g., open-ended vs. close-ended) and/or function (e.g., inquiring vs. suggesting; McGee, Vento, & Bavelas, 2005), but also in their focus. Since coaching interventions often share a common background with psychotherapy interventions (Gray, 2006), coaches may tend to focus their questioning on analyzing the problem the coachee describes. For example, in approaches to coaching with roots in psychoanalysis, there is a strong focus on problem diagnosis and uncovering the way in which past experiences influence relationships and performance at work (Diamond, 2013).

In some cases, it can be argued that analyzing a problem in order to find and eliminate the root-cause of a problem can be an effective way of dealing with a problem. For example, when a coachee experiences work-life balance issues because of a daily 2 hour commute, this coachee could try to make arrangements with his/her manager to work from home more often. In other (and supposedly most) cases, the problems that coachees face might be too complex, systemic and multifaceted in nature for such a linear root-cause analysis approach. For instance, a newly promoted manager might experience difficulties leading his/her team for several (interrelated) reasons. It might be due to a combination of his/her own (perceived)
lack of managerial competencies, the inability of former team-members to accept their former peer as a superior and/or the increased workload that comes with the managerial position. In this case, the utility of trying to pinpoint one specific root cause by asking PF questioning is not only questionable but doing so might also result in negative affective states such as stress and frustration because it directs the coachee’s attention to what is wrong while the chances of finding a straightforward solution are limited (Grant, 2012b).

In contrast, SF coaching involves questioning that directs the client’s attention to what is (or could be) going well (De Shazer, 1988) rather than to what is going wrong. By focusing on a desired (future) situation, SF questions could elicit positive activating affective states such as feeling vigorous and activated. The two studies by (Wehr, 2010) and (Grant, 2012b) mentioned above directly compared the impact of SF and PF questioning and indeed point in this direction. The results showed that SF questioning increased positive affect while decreasing negative affect. Based on the above, we aim to replicate the results regarding positive affect, and additionally predict that PF questioning will lead to higher negative affect than SF questioning.

\[ \text{H-1: Compared to PF questioning, SF coaching questioning will result in a) higher positive affect and b) lower negative affect.} \]

**Problem-Focused Questioning and Attentional Control**

The need for coaching often arises from the inability of a coachee to initiate the actions needed to solve a problem or to close the gap between a current and a desired end-state (Bowman, Ayers, King, & Page, 2013). Such self-regulatory failure has shown to be related to adverse outcomes such as frustration and rumination (Baumeister et al., 1996; Muraven & Baumeister, 2000), which in turn could lead to further impairment of problem-solving capabilities (Watkins & Brown, 2002). Therefore, an important task for coaches is to promote coachees’ self-regulatory processes (Grant et al., 2010).

According to Ruff and Rothbart (2001), one aspect that plays an important role in self-regulatory processes is attentional control. According to Rueda et al. (2005), attentional control is crucial because “even simple behaviors require selecting the stimulus toward which the action is directed” (p. 575). Indeed, previous research has shown that attentional control is strongly related to self-regulatory processes such as changing health behaviors (e.g., quitting smoking; Mann & Ward, 2007) and learning new skills (Wulf, McNevin, Fuchs, Ritter, & Toole, 2000).

One way in which coaches could potentially facilitate self-regulatory processes is by asking questions that increase the probability that the coachee remains focused on
The Differential Effects of Solution-Focused and Problem-Focused Coaching Questions

finding solutions rather than getting lost in ruminative thoughts and feelings (Grant, 2012b). We argue that PF questioning could have negative effects in this respect. Besides potentially increasing negative affect, focusing on “what is wrong”, could cause the coachee to remain focused on this negative affect and to ruminate about their own contribution to the problem (rather than finding solutions). According to the impaired disengagement hypothesis by Koster et al. (2011), this kind of ruminative self-critical thinking (i.e. about one’s own contribution to a problem) can result in negative conclusions regarding the self (e.g., “I failed because I am not smart enough”) that are at odds with people’s natural tendency to uphold positive self-regard (Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004). This in turn results in cognitive conflict that comes at the cost of cognitive control and causes distraction. Indeed, previous research has found that negative self-evaluative rumination impairs concentration, task-performance and problem-solving (e.g., Watkins & Brown, 2002).

In sum, self-evaluative rumination elicited by PF questioning may distract coachees from constructing solutions to their problems. As opposed to PF questioning, SF questioning stimulates the coachee to focus on constructing solutions (see below) and does not ask coachees to think extensively about their own contribution to (or other causes of) the problem situation. As such, we expect that PF questioning is more cognitively demanding and thus results in lower attentional control than SF questioning.

H-2: PF questioning will result in lower attentional control than SF questioning.

Solution-Focused Questioning and Cognitive Flexibility
As mentioned above, it is important for a coachee to remain focused on constructive solution-generation rather than rumination. However, it can be argued that for a coach, keeping the coachee focused on finding solutions is crucial but not sufficient to make actual progress. In order to help the coachee to generate inventive solutions for their problems, coaches should also aim to stimulate the coachee’s cognitive flexibility in order to enable divergent thinking (Neenan, 2009). With regard to coaching, previous authors have suggested that development of a coachee’s cognitive flexibility is one of the most important goals of coaching because cognitively flexible individuals can apply a wide variety of strategies to their problems and are less likely to suffer from feelings of anxiety and loss of control when confronted with changing circumstances (Jones, Rafferty, & Griffin, 2006).

SF questioning by a coach could enhance the coachee’s cognitive flexibility in two ways. First, SF questioning might help the coachee to “break loose” from
the problematic situation and might stimulate “lateral thinking” (de Bono, 1995). According to de Bono (1995), people usually fall back on existing and familiar strategies when they try to solve a problem (“vertical thinking”; dig the same hole deeper). Lateral thinking on the other hand, involves developing new ideas (digging a hole somewhere else). De Bono (1995) states that for lateral thinking to occur, it is important that people shift perspectives and (temporarily) move away from pre-formed boundaries and restrictions. Although empirical research that directly tests the notion of lateral thinking is scarce, a review by Clapham (2003) indicates that interventions that incorporate techniques to stimulate lateral thinking (e.g., wishful thinking) can be applied effectively to stimulate divergent thinking and creative problem solving. This kind of wishful thinking is exactly what is stimulated by the so-called “miracle question” that is typical for SF coaching (Berg & Szabo, 2006). The miracle question prompts coachees to visualize how they would think, feel and behave differently if their problem would magically disappear overnight. In other words, by asking the miracle question, a coach can stimulate the coachee to shift perspectives and temporarily circumvent potential obstacles in order to stimulate lateral thinking and hence, cognitive flexibility.

In addition to its (potential) direct effects on lateral thinking, SF questioning could also indirectly enhance cognitive flexibility via its effects on positive affect (Hypothesis 1a). According to Frederickson’s Broaden and Build Theory of Emotions (B&B Theory; 1998, 2001) positive emotions broaden people’s thought-action repertoires. That is, whereas negative emotions trigger very specific thoughts and actions that allow people to respond accurately to a threat because the options are limited (e.g., threats elicit either a fight or flight response), positive emotions also serve an evolutionary function and stimulate the exploration of novel thoughts and actions that allow people to learn from and adapt to their environment (Fredrickson & Branigan, 2005). Thus, the positive affect elicited by the focus on a desired situation may cause coachees to think more creatively about their problems. This link between positive affective states and cognitive flexibility has been extensively supported by the psychological literature on creativity (Baas et al., 2008), and positive affect has also been shown to relate to a broad-minded way of coping with stress and adversity (Fredrickson & Joiner, 2002). In sum, SF questioning might positively influence cognitive flexibility directly by its effect on lateral thinking, and indirectly via positive affect:

**H-3a:** SF questioning will result in higher cognitive flexibility than PF questioning.

**H-3b:** The effects of SF questioning on cognitive flexibility are partially mediated by positive affect.
To summarize the above, we expect that SF and PF questioning are differentially related to positive affect (H1a), negative affect (H1b), attentional control (H2) and cognitive flexibility (H3a) and that the effects of SF questioning on cognitive flexibility will partially be mediated by positive affect (H3b). We tested these hypotheses in two experiments (Experiment 1: H1a, H1b and H2; Experiment 2: H1a, H1b, H3a and H3b).

EXPERIMENT 1

METHOD

Design and Participants
We used an experimental design with one independent variable (SF vs. PF questions). Initially, 75 Dutch University students signed up for our study. In accordance with the guidelines of the research ethics committee of the university where we conducted the experiment, we screened participants for the emotional exhaustion aspect of burnout. Participants who scored in the range of the clinical population (A. Evers et al., 2002) on the UBOS emotional exhaustion scale (see measures), and thus would not fit Grant’s (2003) definition of coaching, were automatically led into the SF condition in order to minimize any adverse effects that our study could have in the long run. We excluded the data generated by these participants (n = 3) from our analyses.

Following Wehr (2010), we chose to impose a certain degree of standardization of the described problems in order to increase the between-subject comparability and generalizability of results. Although we specifically recruited students who were experiencing study-related stress, a number of participants did not describe problems related to their studies (e.g., “I have to get my bike fixed”) and/or did not experience any stress. These participants were excluded from our final analyses (n = 11). The final sample consisted of 61 students (of which 47 were female) with a mean age of 21.44 years (SD = 2.67). These participants were randomly allocated to either the SF condition (n = 31) or PF condition (n = 30). Figure 1 depicts the screening and exclusion procedures of Experiment 1 in a CONSORT diagram.

Procedure and Manipulations
On arrival, participants entered a separate room with a computer, which displayed all materials and registered the answers. At the start of the experiment, participants read an information brochure that described the study as a study on online coaching. In the information brochure, we informed the participants that their data would be dealt
with in a confidential way and that we would never disclose any personal information about them outside the research team. They then had to fill out and sign an informed consent form, and we asked them to indicate demographical data, their current levels of positive and negative affect and level of emotional exhaustion. Participants then briefly described their problem related to study-stress and/or time-management.

Depending on the condition they were assigned to, the participants then received either SF questions or PF questions. The exact wording of these questions was based on previous studies by Wehr (2010), Grant and O’Connor (2010) and Grant (2012b). In the SF condition, participants were asked to imagine a situation in which their problem would have magically disappeared overnight (the miracle question; De Shazer, 1988) and were asked to report on how they would think, feel and behave differently in that situation. In the PF condition, the participants were asked to think back of a situation in which their problem was strongly present, and were asked to report how they thought, felt and behaved in that situation. After answering these questions, participants filled in a second positive and negative affect questionnaire and started the attentional control
task. Finally, participants answered the manipulation check questions. On completion, participants received both a brochure with contact details of the student-psychologist (in case they felt the urge to further discuss their problems with a professional psychologist) and their participation money or research credit.

**Measures**

The Emotional Exhaustion subscale of the Dutch Translation of the Maslach burnout inventory (UBOS; Schaufeli, Leiter, Maslach, & Jackson, 1996) was used to measure emotional exhaustion. The emotional exhaustion scale measures feelings of being emotionally overextended and exhausted by one's work/study. The eight items (e.g., “I feel frustrated by my study”) were answered on a 7-point Likert-scale, ranging from 1 (never) to 7 (daily). Reliability of the scale was α = .82.

**Positive and negative affect.** Two subscales of the UWIST Mood Adjective Checklist (UMACL; Matthews, Jones, & Chamberlain, 1990) were used to measure positive and negative affect. Negative affect (e.g., “anxious”) was measured by the tense arousal scale (α = .80). Positive affect (e.g., “energetic”) was measured by the energetic arousal scale (α = .89).

**Attentional control.** Attentional control was measured by a Stroop task (Stroop, 1935). In the Stroop task, the participants are presented with 48 trials (plus 12 practice trials and 24 filler trials) in which words referring to colors (e.g., green) are presented in random order, and are either displayed in a congruent (e.g., the word “green” displayed in a green font), or an incongruent manner (e.g., the word “green” displayed in a red font). Participants were instructed to identify the color of the displayed word as quickly and accurately as possible by choosing between two colored squares (one matching the color, the other matching the semantic meaning of the displayed word) that were mapped to either the “A” or “L” key on the keyboard. Attentional control was measured by examining both the reaction times for the congruent and the incongruent trials and the amount of errors made by the participants. Specifically, we assessed reaction time (in milliseconds) by calculating the Stroop interference index (response latencies on incongruent trials – response latencies on congruent trials) and accuracy – by calculating the Stroop interference in errors (number of errors on incongruent trials – number of errors on congruent trials; Jostmann & Koole, 2007). For both the reaction time and the accuracy measure, higher scores indicate a higher degree of Stroop interference and hence lower attentional control.

**Manipulation checks.** To check whether our manipulations were successful, participants answered four questions about the nature of the coaching questions we asked them. Two questions assessed the extent to which participants felt the
questions were SF (e.g., “In this study I had to think about a positive situation”; $\alpha = .87$). The other two questions assessed the extent to which participants felt the questions were PF (e.g., “In this study I had to think about a problematic situation”; $\alpha = .80$).

**RESULTS**

Table 4.1 shows the means, standard deviations and correlations for key study variables in Experiment 1.

<table>
<thead>
<tr>
<th></th>
<th>M (SD)</th>
<th>SF vs. PF</th>
<th>Pos. affect</th>
<th>Neg. affect</th>
<th>Stroop RT</th>
<th>Stroop E</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF vs. PF</td>
<td>-</td>
<td>-</td>
<td>.62**</td>
<td>-.60**</td>
<td>.13</td>
<td>.09</td>
</tr>
<tr>
<td>Pos. affect</td>
<td>4.28 (1.26)</td>
<td>-</td>
<td>-.73**</td>
<td>.03</td>
<td>.07</td>
<td></td>
</tr>
<tr>
<td>Neg. affect</td>
<td>3.71 (1.17)</td>
<td>-</td>
<td>-.24</td>
<td>-.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stroop RT</td>
<td>615 (583)</td>
<td>-</td>
<td>-</td>
<td>.18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stroop E</td>
<td>1.13 (2.13)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. $N = 61$. For SF vs. PF, 0 = problem focused, 1 = solution focused, Stroop RT = stroop interference index, Stroop E = interference in errors.** $p < .001$.

The results of the manipulation checks showed that our manipulations were successful. As compared to participants in the PF condition ($M = 2.03$, $SD = .80$), participants in the SF condition scored higher on the degree to which they felt that the experiment prompted them to think about positive, solution-oriented situations ($M = 5.47$, $SD = .96$; $F(1, 59) = 227.98$, $p < .000$) while they scored lower than participants in the PF condition ($M = 3.83$, $SD = 2.17$) on the degree to which they felt that the experiment prompted them to think about negative, problem-oriented situations ($M = 6.45$, $SD = .81$; $F(1, 59) = 39.41$, $p < .000$).

**Positive Affect and Negative Affect**

Hypothesis 1a predicted that SF questioning would result in higher positive affect than PF questioning whereas Hypothesis 1b predicted that SF questioning would result in lower negative affect than PF questioning. Both Hypotheses were fully supported. SF questioning resulted in higher positive affect ($M = 5.08$, $SD = 1.09$) than PF questioning ($M = 3.51$, $SD = .90$; $F(1, 59) = .37.25$, $p < .000$) and lower negative affect ($M = 3.00$, $SD = 1.10$) than PF questioning ($M = 4.41$, $SD = .76$; $F(1, 59) = 30.01$, $p < .000$).
**Attentional Control**

Hypothesis 2 predicted that PF questioning (as compared to SF questioning) would result in lower attentional control. We found no support for this hypothesis. PF questioning did not result in lower attentional control than SF questioning, neither in terms of reaction times ($F(1, 59) = 1.05, p = .31$) nor the number of errors made by the participants ($F(1, 59) = .52, p = .48$) on the Stroop task.

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**EXPERIMENT 2**

**METHOD**

**Design and Participants**

As in Experiment 1, participants were randomly allocated to either the SF condition ($n = 28$) or PF condition ($n = 26$). The final sample consisted of 54 students of a Dutch University (of which 42 were female) with a mean age of 21.69 years ($SD = 3.76$). The screening and exclusion procedures were the same as in Experiment 1, and are depicted in Figure 4.1.

**Procedure, Measures and Manipulation Checks**

Both the procedure, the measures and the manipulation checks were the same as in Experiment 1. The only difference was that the Stroop task was replaced by a Category Inclusion Task (CIT; Rosch, 1975, see below), an experimental task that has been widely used to measure cognitive flexibility in the literature on creativity and creative problem-solving (see Baas et al., 2008). In the CIT, participants rate the degree to which they think that a subject is prototypical for a particular category. For each category (e.g., vehicles) three examples were presented: one strong example (bus), one intermediate example (airplane) and one weak example (camel). As suggested by Rosch (1975) and in line with previous research (see Baas et al., 2008), cognitive flexibility was assessed by calculating the mean of the prototypically ratings ($1 = $ not at all prototypical, $10 = $ very prototypical) of the weak examples (e.g., camel) for each category.

**RESULTS**

Table 4.2 shows the means, standard deviations and correlations for key study variables in Experiment 2.
Chapter 4

The results of the manipulation checks showed that our manipulations were successful. As compared to participants in the PF condition (M = 1.82, SD = 1.02), participants in the SF condition scored higher on the degree to which they felt that the experiment prompted them to think about positive, solution-oriented situations (M = 4.56, SD = 1.69; F(1, 53) = 52.61, \(p < .000\)) while they scored lower than participants in the PF condition (M = 4.14, SD = 1.46) on the degree to which they felt that the experiment prompted them to think about negative, problem-oriented situations (M = 5.90, SD = 1.01; F(1, 53) = 27.11, \(p < .000\)).

**Positive Affect and Negative affect**

Hypothesis 1a predicted that SF questioning would result in higher positive affect than PF questioning whereas Hypothesis 1b predicted that SF questioning would result in lower negative affect than PF questioning. The results provide support for both hypotheses and replicate the findings in Experiment 1: SF questioning resulted in higher positive affect (M = 5.5, SD = .89) than PF questioning (M = 3.69, SD = 1.03; F(1, 53) = 46.87, \(p < .000\)) and lower negative affect (M = 2.56, SD = .72) than PF questioning (M = 4.44, SD = 1.24; F(1, 53) = 46.27, \(p < .000\)).

**Cognitive Flexibility**

We predicted that SF questions (as compared to PF questions) would result in more cognitive flexibility (H3a). The results support this hypothesis. Participants in the SF condition (M = 5.13, SD = 1.71) scored significantly higher than participants in the PF condition (M = 4.04, SD = 1.58) on cognitive flexibility as measured by the category inclusion task (F(1, 52) = 5.80, \(p = .02\)).

<table>
<thead>
<tr>
<th></th>
<th>M (SD)</th>
<th>SF vs. PF</th>
<th>Pos. affect</th>
<th>Neg. affect</th>
<th>Cog. Flex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF vs. PF</td>
<td>-</td>
<td>-</td>
<td>.69**</td>
<td>-.69**</td>
<td>.32*</td>
</tr>
<tr>
<td>Pos. affect</td>
<td>4.56 (1.32)</td>
<td>-</td>
<td>-</td>
<td>-.69**</td>
<td>.29*</td>
</tr>
<tr>
<td>Neg. affect</td>
<td>3.54 (1.39)</td>
<td>-</td>
<td>-</td>
<td>-.20</td>
<td></td>
</tr>
<tr>
<td>Cog. Flex.</td>
<td>4.56 (1.72)</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. N = 54. For SF vs. PF, 0 = problem focused, 1 = solution focused, Cog. Flex. = cognitive flexibility.** \(p < .001\), * \(p < .05\).*
The Differential Effects of Solution-Focused and Problem-Focused Coaching Questions

The Mediating Effect of Positive Affect
To test whether positive affect mediated the relationship between type of questioning (SF vs. PF) and cognitive flexibility (H4a), we followed a bootstrapping procedure (5000 resamples) as outlined by Preacher and Hayes (2004, 2008). The specific indirect effect (indirect effect = .16, SE = .25) was non-significant as the 95% confidence interval contained zero [-.32, .65]. Thus, the results did not support Hypothesis 3b.

DISCUSSION

We predicted that SF questioning as compared to PF questioning would increase positive affect (Hypothesis 1a) and decrease negative affect (Hypothesis 1b). The results of both experiments supported these hypotheses. Further, we predicted that PF questioning would result in lower attentional control than SF questioning (Hypothesis 2). We found no support for this hypothesis (Experiment 1). Finally, we predicted that SF questioning would result in higher cognitive flexibility than PF questioning (Hypothesis 3a) and that this effect would be (partially) mediated by positive affect (Hypothesis 3b). The results of Experiment 2 support Hypothesis 3a, but not 3b. We will elaborate on these findings below.

The results regarding the effects of SF questioning on positive affect are in line with previous studies by Grant (2012b) and Wehr (2010). Specifically, our results indicate that SF questions can positively influence positive affective states such as feeling vigorous and activated. Extending the results of those previous studies, our results show that PF questioning can have detrimental effects on a coachee’s affective state. Whereas Grant (2012b) speculated about the detrimental effects of PF questioning (but did not find such effects in his study), our results show that SF questioning indeed leads to lower negative affect than PF questioning. We realize that it can be cathartic for coachees to talk about their problems and that root-cause analysis might help to identify the key issues that need to be addressed in a coaching engagement (Grant, 2012b). Nevertheless, our results indicate that it is important for coaches to realize that such a problem orientation might negatively impact the coachee’s immediate affective states and their ability to think creatively about their problems (see below).

Contrary to our expectations, the problem analysis elicited by PF questioning did not result in lower attentional control than SF questioning. Several (speculative) explanations might be offered for this finding. Although we recruited students who were experiencing study-related stress and excluded participants who reported that they did not have a problem (or weren’t bothered by it), it might be that the
problems that participants came up with were still not pressing enough to cause
effects on attentional control. Alternatively, it might be that the detrimental effects
of PF questioning on attentional control are moderated by the degree to which
coachees hold a positive view about themselves. The impaired disengagement
hypothesis (Koster et al., 2011) states that analyzing one’s own contribution to a
problem decreases attentional control when the conclusions of such an analysis
(e.g., “I am not smart enough”) are at odds with a person’s positive self-view (I am
a smart person). When such a positive self-view is absent however, there would
be no such conflict and attentional resources would not have to be spent on
(cognitively) reducing that conflict. Hence, attentional control would not be hurt.
Future research could investigate the moderating influence of those characteristics
of coachees that are either directly related to his/her (positive) self-view (e.g.,
core-self evaluations; Judge, Bono, Erez, & Locke, 2005) or the degree to which
coachees are inclined to be self-judgmental and self-critical (e.g., due to a lack of
self-compassion; Neff, 2003).

A final explanation might be due to a limitation in our study, namely the
relatively small number of trials in the (brief) version of the Stroop (1935) task that
we used. Although previous research on the Victoria Stroop Task (Spreen & Strauss,
1998) has demonstrated that reliable results can be attained with only 24 trials per
(congruent and incongruent) condition (e.g., Troyer, Leach, & Strauss, 2006), it might
be that more trials are needed for attentional drain to occur and to be able to detect
effects on attentional control. Future research could investigate this explanation by
incorporating a variant of the Stroop task that uses a larger number of trials (e.g.,
Golden’s Stroop Test, 1978).

Experiment 2 supported the idea that SF questioning can enhance cognitive
flexibility. The fact that we did not find the proposed mediating effect of positive
affect suggests that the higher cognitive flexibility induced by SF questioning is
due to a change in cognitive processes (e.g., lateral thinking; de Bono, 1995) rather
than to the broadening effects of positive emotions predicted by the B&B theory
(Fredrickson, 1998, 2001). While this result is promising for coaching as a tool to foster
creative problem solving, it has to be noted that the ability to think in broad mental
categories might be a prerequisite for creative problem solving, but might (still) not
be sufficient for actually coming up with inventive solutions. As demonstrated by
our results, asking a coachee to visualize a positive situation in which the problem is
solved can open their “mental door”. However, follow-up questions may be needed
to guide the coachee through that door and to help them to generate and select
solutions that can be translated into actual behavior.
The Differential Effects of Solution-Focused and Problem-Focused Coaching Questions

Concluding remarks and practical implications
The main aim of our paper was to contribute to the understanding of how SF and PF coaching questions can foster a coachee’s self-regulation and problem solving. The results of our experiments show that affect and cognitive flexibility might be promising directions for future research. At the least, our results indicate that SF questions have the potential to stimulate divergent thinking and enable creative problem solving. We hasten to add however, that we do not see the SF approach as inherently better or more useful than the PF approach. Rather than conceiving the SF approach as a replacement for the PF approach, we conceive it as an alternative mindset that can be useful to foster a shift in perspectives when a coachee feels “stuck” in his/her problematic situation. Following Passmore (2007), we would encourage coaches to build an extensive toolbox to draw from rather than using one specific approach to coaching. A potential pitfall for coaches is to focus on the methodology rather than the problem: if all you have is a hammer, everything looks like a nail.

Our experiments may have helped to show that research on coaching can be enriched by incorporating seminal empirical and theoretical work on human affect and cognition. Applying methodologies from these fields may benefit future coaching research and the construction of an accumulative knowledge-base (Theeboom et al., 2014), and thus coaching practices. By deepening our understanding of how coaching interventions (such as specific questions) tap into coachees’ affect, self-regulation and creative problem solving, coaches can further develop and refine their interventions.

FOOTNOTES

1. The authors are aware that the term “PF approach” as well as the explicit distinction between SF and PF approaches are almost exclusively used by SF proponents. In practice, most coaches apply various techniques depending on the needs of the coachee (Peterson, 2011).

2. A considerable amount of research shows that it is not only the tone of affect (positive vs. negative) that influences creative problem solving, but also the degree to which the affect is activating (Baas et al., 2008). We chose to use the UMACL (Matthews et al., 1990) because of its ability to capture both tone and the degree of activation of affective states.

3. Based on the relatively high correlations between our condition variable (SF vs. PF), and positive and negative affect we inspected the VIF statistics in order to address potential multicollinearity issues. The VIF statistics ranged from 1.048 to 1.191 in experiment 1 and from 1.57 to 2.14 in experiment 2, which is below the VIF = 5 “problematic” threshold outlined by Hutcheson & Sofroniou (1999). Therefore, we expect multicollinearity to be of minimal impact in our study.