MAKING POSITIVE CHANGE: A RANDOMIZED STUDY COMPARING SOLUTION-FOCUSED VS. PROBLEM-FOCUSED COACHING QUESTIONS

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This study compared the effects of problem-focused and solution-focused coaching questions on positive and negative affect, self-efficacy, goal approach, and action planning. A total of 225 participants were randomly assigned to either a problem-focused or solution-focused coaching condition. All participants described a real-life problem that they wanted to solve and set a goal to solve that problem. They then completed a set of measures that assessed levels of positive and negative affect, self-efficacy, and goal attainment. In the problem-focused coaching condition 108 participants then responded to a number of problem-focused coaching questions and then completed a second set of measures. The 117 participants in a solution-focused coaching session completed a mirror image of the problem-focused condition, responding to solution-focused questions including the "Miracle Question." Both the problem-focused and the solution-focused coaching conditions were effective at enhancing goal approach. However, the solution-focused group had significantly greater increases in goal approach compared to the problem-focused group. Problem-focused questions did not impact on positive or negative affect or self-efficacy. In contrast the solution-focused approach significantly increased positive affect, decreased negative affect, and increased self-efficacy. In addition, the solution-focused group generated significantly more action steps to help them reach their goal. Although real-life coaching conversations are not solely solution-focused or solely problem-focused, agents of change should aim for a solution-focused theme in their work if they wish to conduct effective goal-focused sessions.

Solution-focused approaches are strength-based approaches that emphasize people’s resilience, strengths, and resources and how these can be utilized in the pursuit of goals and the enactment of purposeful positive change (Grant, 2011). Originating in the counselling and therapeutic fields from

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the work of Steve de Shazer, Insoo Kim Berg, and the Brief Family Therapy Centre at Milwaukee, Wisconsin, solution-focused approaches are now increasingly being used in a wide range of human change methodologies such as coaching and consulting (Jackson & McKergow, 2002). A key driver behind the development of solution-focused therapy was the frustration and dissatisfaction that many therapists had with the problem-focus inherent in the diagnostic medical model (O’Hanlon & Beadle, 1996). These early solution-focused practitioners often found it far more effective to ask questions that focused clients’ attention on personal resources and building solutions rather than trying to analyze complex problems, develop pathology-based diagnoses, and uncover root causes (de Shazer et al., 1986).

From this perspective the time spent in the therapy or coaching session is better focused on asking questions that identify the desired solution state and identifying ways to achieve that state, rather than exploring the aetiology of the presenting problem (McKergow & Korman, 2009). In this way clients begin to spend more time thinking about solutions rather than ruminating on problems. Indeed, many solution-focused proponents argue that problem exploration can even be damaging for clients (Jackson & McKergow, 2002).

There is now a growing body of empirical evidence suggesting that the solution-focused approach can be effective. In a comprehensive literature review Corcoran and Pillai (2009) found that solution-focused approaches were effective for a wide range of therapeutic situations including marriage counselling (Zimmerman, Prest, & Wetzel, 1997), suicide prevention interventions (Rhee, Merbaum, Strube, & Self, 2005), criminal offending (Lindforss & Magnusson, 1997), and with caregivers of people with chronic schizophrenia (Eakes, Walsh, Markowksi, Cain, & Swanson, 1997). Other reviews of solution-focused counselling and therapeutic interventions have found solution-focused approaches to be effective in relation to enhancing parenting skills and dealing with anxiety, stress, and depression (e.g., Kim, 2008; Stams, Dekovic, Buist, & de Vries, 2006). There is also growing empirical support for the use of solution-focused approaches in non-therapeutic areas such as organizational, executive, and personal coaching and sports coaching (Bell, Skinner, & Fisher, 2009; Grant, 2003; Jackson & McKergow, 2002; Szabo & Meier, 2009).

This body of empirical literature suggests that solution-focused approaches may well be effective in a number of different contexts. Yet there has been virtually no empirical research that has evaluated a core assumption of the solution-focused approach: that solution-focused questions are more effective than problem-focused questions (Grant & O’Connor, 2010).

Effective questioning is central to the solution-focused approach (for a useful discussion on this issue see McKergow & Korman, 2009). As the
The aim of solution-focused approaches is to facilitate purposeful positive change, questions that are truly effective should have the effect of enhancing motivation, increasing positive affect and self-efficacy for change, as well as helping the coachee to move closer towards their goals or objectives.

The “Ask-Tell Matrix”: A Useful Guiding Heuristic

The “Ask-Tell” matrix provides a useful heuristic for delineating between problem-focused questions that explore causality, and solution-focused questions that are aimed at identifying goals and pathways to goal attainment. The “Ask-Tell Matrix,” first popularized by Whitmore (1992), consists of two orthogonal dimensions: an “Ask-Tell” dimension and a “How-Why” dimension. The solution-focused approach posits that agents of change should spend most of the time asking questions that elicit thoughts from the client about how to best attain their goals, rather than asking “why” questions that explore causality. This is the domain of the “Asking-How-to” quadrant (i.e., the top right quadrant in Figure 1).

In contrast, the underpinning assumption in a problem-focused approach is that the client needs to explore the aetiology and development of the problem in order to gain the understanding deemed necessary for goal attainment. From this perspective, the conversation is more focused on the “Asking-Why” quadrant (i.e., the top left quadrant in Figure 1). There are a number of different theoretical approaches that can be used in problem-focused interventions including Root Cause Analysis (e.g., Rooney & Heuvel, 2004; Wilson, Dell, & Anderson, 1993), psychodynamic approaches (e.g., Buckley, Conte, Plutchik, Wild, & Karasu, 1984), and Cognitive-Behavioral Therapy (Beck, 1995). However, regardless of specific theoretical orientation, the kinds of questions that stem from a problem-focused approach are questions that ask about the origin and development of the problem, often exploring the client’s history and experiences that have led to the current situation.

FIGURE 1. The Ask-Tell Matrix.
causes of the problem, seek to uncover details of the thoughts associated with the problem, and explore the impact of those thoughts on the individual.

The Aims of the Current Study

The aim of this study was to compare the impact of problem-focused and solution-focused coaching questions on a range of variables relevant to the creation of purposeful positive change; namely positive and negative affect, self-efficacy, goal approach, and action planning. To this end the study was designed to emulate problem-focused and solution-focused interactions within a coaching session. That is, a whole coaching session was not conducted, rather participants were asked a series of either problem-focused or solution-focused coaching questions. To the best of the author’s knowledge this is the first study to systemically explore these issues using randomized allocation to either problem or solution-focused condition.

METHOD

Participants

Participants were 225 (males = 57; females = 168; Mean age = 20.5 years; \(SD = 5.4\) years) psychology students at an Australian university who volunteered to take part. Participants received a small amount of course credit for participating (1.5% of course credit). The study and data collection were conducted entirely on-line.

Measures

Positive and Negative Affect were measured using a 12-item version of the Positive and Negative Affect Scale (PANAS; Watson, Clark, & Tellegen, 1988) using a six-point response scale (1 = very slightly or not at all; 6 = extremely). Positive affect descriptors were “happy,” “inspired,” “cheerful,” “positive,” “enthusiastic,” and “optimistic.” Cronbach’s alpha was .93. Negative affect descriptors were “angry,” “downhearted,” “anxious,” “frustrated,” “annoyed,” and “dissatisfied with self.” Participants indicated the degree “that best reflects the way you feel right now.” Cronbach’s alpha was .84.

Self-efficacy was assessed with a composite score derived from three items, “Right now I feel very confident that I know how to solve this problem,” “I feel very confident I can deal with this problem,” and “I am confident that I can find a solution to this problem right now,” using a six-point response scale. Cronbach’s alpha was .85.
**Goal Approach** was assessed by asking the participants to “please rate how close you feel right now to your goal of actually solving this problem.” Participants responded on a 0-10 point scale where 0 represented “not solved at all” and 10 represented “completely solved.”

**Action Steps:** At the end of the experiment participants were asked to list up to 20 action steps that they could take to help to reach their goal of solving the problem. They were told that they did not have to list any steps at all if they could not think of any.

**Procedure**

Participants responded to an advertisement which asked for volunteers to take part in an on-line study into the use of coaching questions and they were asked to identify a personal problem that they would like to solve. Participants were then randomly assigned by a computer to either the problem-focused (n = 108) or the solution-focused (n = 117) conditions.

**Overview of the Problem-focused Condition**

In the problem-focused condition participants described a real-life problem and completed the measures on-line including rating how close they were to reaching their goal (Time 1). They then responded to a series of problem-focused questions designed to elicit problem-focused thinking, and then completed a second set of post-session measures identical to the first set (Time 2). Following this they listed any action steps which they could take to help to solve the problem. Finally, they again rated how close they were to reaching their goal (Time 3).

**Describing the Problem**

Participants were asked to respond to the following request:

> Please take between 10 to 12 minutes to write about a problem that you have that you would like to solve. It should be one that is frustrating for you and one that you have not, as yet, been able to solve. This problem should be real and personal, but something you feel comfortable sharing about. It might be a dilemma, that is a situation in which you feel caught between two or more possible courses of action, or a situation that you don’t feel like you have a good deal of insight into.

Participants then completed the first set of measures which assessed their levels of positive and negative affect, self-efficacy, and goal approach.
Focusing on the Problem

Following this the participants were then asked to respond in detail to the following questions: “How long has this been a problem? How did it start?”; “What are your thoughts about this problem?”; “How do you react when you have those thoughts?”; and “What impact is thinking about this issue having on you?”

These questions were selected for the problem-focused condition because they focus the respondent’s attention specifically on the problem, and it has been argued that these questions can produce an “ah-hah” experience and the insights associated with problem solving and goal attainment (Jung-Beeman, Collier, & Kounios, 2008). As described previously, participants then completed the second set of measures of positive and negative affect, self-efficacy, and goal approach. They then listed any action steps they could think of that they could take to help to reach their goal of solving the problem and then rated how close they were to reaching their goal. Participants did not have access to their previous responses.

Overview of the Solution-focused Condition

The solution-focused session was designed to be a mirror image of the problem-focused session. As in the problem-focused condition, participants described a real-life problem and then completed the measures. They then responded to a series of solution-focused coaching questions designed to elicit solution-focused thinking, and then completed a second set of measures identical to the first set. Following this they listed any action steps which they could take to help to solve the problem.

Describing the Solution

Participants were asked to respond to the following request: “Think about a possible solution to the problem you have just described. Now, imagine the solution had somehow ‘magically’ come about. Describe the solution”; “Describe some ways you could start to move towards creating this solution”; “What are your thoughts about this solution?”; “How do you react when you have these thoughts?”; and “What impact is thinking about this solution having on you?”

These questions were selected for the solution-focused condition because they represent much of the essence of the solution-focused approach as articulated by de Shazer (1988), O’Connell (1998), Berg and Szabo (2005), and Furman and Ahola (1992), among others. These questions are designed
to focus the respondent’s attention on possible solutions and encourage the formation of positive intentions rather than fostering a problem-focused self-reflective process. As described previously, participants then completed the second set of measures as previously described. Participants did not have access to their previous responses.

RESULTS

Data were analyzed using a $2 \times 2$ repeated measures analysis of variance (ANOVA) consisting of one between-subjects factor (group) and one within-subject factor (time) to analyze the data for Time 1 and Time 2 for positive and negative affect, self-efficacy, and goal approach. A one-way ANOVA consisting of one between-subjects factor (group) was used for action steps, and a $2 \times 2$ repeated measures analysis of variance (ANOVA) consisting of one between-subjects factor (group) and one within-subject factor (time) was conducted in order to analyze the data for Time 2 and Time 3 for goal approach. Alpha was set at .05. All $p$-values are two-tailed. There were no significant differences between groups on any measures at Time 1.

A total of 225 participants completed the questionnaires on-line. There were 108 participants in the problem-focused condition and 117 participants in the solution-focused condition. Means and standard deviations are presented in Table 1.

Positive Affect: A $2 \times 2$ repeated measures ANOVA for positive affect showed a significant main effect, $F(1, 223) = 76.73, p < .01$, and a signifi-

| TABLE 1. Descriptive Statistics for All Measures for Problem-focused ($N = 108$) and Solution-focused Conditions ($n = 117$) |
|-----------------|-----------------|-----------------|-----------------|
|                 | Time 1          | Time 2          | Time 3          |
|                 | Mean $SD$       | Mean $SD$       | Mean $SD$       |
| Positive Affect SF | 18.05 6.55 | 19.99 8.25 | —              |
| Positive Affect PF | 17.28 6.28 | 17.00 7.02 | —              |
| Negative Affect SF | 19.16 6.60 | 17.14 7.55 | —              |
| Negative Affect PF | 19.98 6.90 | 19.55 6.87 | —              |
| Self-efficacy SF | 8.12 3.76 | 10.03 4.31 | —              |
| Self-efficacy PF | 8.17 3.27 | 8.53 3.69 | —              |
| Goal Approach SF | 3.86 2.41 | 4.98 2.52 | 5.78 2.28 |
| Goal Approach PF | 3.37 2.32 | 3.94 2.33 | 5.05 2.36 |
| Action Steps SF | — — | 4.98 2.52 | —              |
| Action Steps PF | — — | 3.94 2.33 | —              |

Note: SF = Solution-focused condition; PF = Problem-focused condition.
cant time (Time 1, Time 2) by group (problem-focused, solution-focused) interaction effect, $F(1, 138.04) = 11.03, p < .001$; indicating that the solution-focused group had higher positive affect scores at Time 2 compared with problem-focused group. The positive affect scores for the solution-focused group increased by an average of 1.94 compared to a reduction in positive effect of -0.28 for the problem-focused group.

**Negative Affect:** A $2 \times 2$ repeated measures ANOVA for goal approach showed a significant main effect, $F(1, 223) = 10.31, p < .01$, and a significant time (Time 1, Time 2) by group (problem-focused, solution-focused) interaction effect, $F(1, 223) = 4.36, p < .05$; indicating that the solution-focused group had lower negative affect scores at Time 2 compared with problem-focused group. The negative affect scores for the solution-focused group decreased by an average of -2.02 compared to a reduction of only -0.43 for the problem-focused group.

**Self-efficacy:** A $2 \times 2$ repeated measures ANOVA for goal approach showed a significant main effect, $F(1, 223) = 39.08, p < .001$, and a significant time (Time 1, Time 2) by group (problem-focused, solution-focused) interaction effect, $F(1, 223) = 17.90, p < .001$; indicating that the solution-focused group had higher self-efficacy scores at Time 2 compared with problem-focused group. The self-efficacy scores for the solution-focused group increased by an average of 1.91 compared to only 0.36 for the problem-focused group.

**Goal Approach:** A $2 \times 2$ repeated measures ANOVA for goal approach showed a significant main effect, $F(1, 223) = 72.65, p < .001$, and a significant time (Time 1, Time 2) by group (problem-focused, solution-focused) interaction effect, $F(1, 223) = 7.60, p < .01$; indicating that the solution-focused group had higher goal approach scores at Time 2 compared with problem-focused group. The goal approach scores for the solution-focused group increased between Time 1 and Time 2 by an average of 1.12 compared to 0.57 for the problem-focused group.

To identify if any changes in goal approach were evidenced between Time 2 and Time 3, a second $2 \times 2$ repeated measures ANOVA was conducted. This showed a significant main effect, $F(1, 223) = 127.11, p < .001$. However, there was no significant interaction effect, $F(1, 223) = 3.29, ns$. The Time 3 goal approach ratings were taken directly after the participants had listed possible action steps, and these results indicate that both the solution-focused group and the problem-focused group increased their levels of goal approach after listing possible action steps, but both groups did so at the same rate—neither the solution-focused group or the problem-focused group was superior to the other group in this particular section of the study.

**Action Steps:** A one-way between subjects ANOVA for action steps indicated a significant difference between the problem-focused and solution-
focused condition $F(1,223) = 10.13, p < .01$; indicating that the participants in the solution-focused group generated more action steps to reach their goal than participants in the problem-focused condition. The solution-focused group generated an average of 4.98 action steps compared to the 3.94 action steps generated on average by the problem-focused group (see Figure 2).

**DISCUSSION**

The aim of this study was to explore the differences between in the impact of problem-focused and solution-focused coaching questions on a range of variables relevant to the facilitation of purposeful positive change, namely positive and negative affect, self-efficacy, goal approach, and action planning. The study was designed to emulate problem-focused and solution-focused interactions within a coaching session. That is, a whole coaching session was not conducted, instead, participants were asked a series of problem-focused and solution-focused coaching questions. Broadly speaking, the results indicated that a solution-focused questioning approach is more effective than a problem-focused questioning approach.

**FIGURE 2:** Changes in pre-post scores for problem-focused and solution-focused questions.
Comparing the Impact on Positive and Negative Affect

In general the solution-focused coaching questions positively impacted on a greater number of variables than the problem-focused questions, and this was particularly evident in relation to positive and negative affect. It might have been expected that the problem-focused questions would increase negative affect. The aim of the problem-focused questions was to get participants to ruminate on their presenting problem, and rumination is frequently associated with increased dysphoria and depression (Spasojevic & Alloy, 2001). However, in the present study the problem-focused questions did not significantly increase negative affect or reduce positive affect; participants did not feel worse after answering the problem-focused questions. In the problem-focused condition there was only a 2.17% reduction in negative affect and a 1.6% reduction in positive affect—and neither of these changes was statically significant.

However, the solution-focused condition produced very different results. Asking participants solution-focused questions significantly increased their levels of positive affect and significantly reduced their levels of negative affect. In the solution-focused condition there was a 11.12% reduction in negative affect and a 10.19% increase in positive affect—and both of these changes were statically significant. Thus, in relation to emotional impact the solution-focused approach appeared to be superior to the problem-focused approach, an important point for practitioners.

Past research supports this study’s findings. In a small scale non-randomized pilot study of 39 participants which explored the differential effects of solution-focused and problem-focused coaching questions on positive and negative affect and goal approach, Grant and O’Connor (2010) also found that solution-focused, but not problem-focused, coaching questions enhanced positive affect. One of the few other studies to have compared specific solution-focused and problem-focused techniques also supports the findings reported here. Wehr (2010) asked participants to focus on a specific personal problem that they would like to solve. One group then generated exceptions to the problem and the other group generated examples of similar or additional problems. Afterwards participants in the solution-focused group had higher positive affect than those in the problem-focused group. Moreover, in a similar study the solution-focused group had higher levels of confidence in their ability to deal with the problem (Wehr, 2010).

Comparing the Impact on Self-efficacy

Whilst feeling more positive and less negative is a useful outcome, of particular import for practitioners is the finding that the solution-focused questioning
led to significant increases in self-efficacy. Self-efficacy is “the belief in one’s capabilities to organize and execute the courses of action required to manage prospective situations” (Bandura, 1995, p. 2). Self-efficacy is a significant and robust predictor of goal attainment and well-being in a wide range of areas including work (Sadri & Robertson, 1993), sports performance (Moritz, Feltz, Fahrbach, & Mack, 2000), and treatment for pain and depression (Arnstein, Caudill, Mandle, Norris, & Beasley, 1999). Indeed, the self-efficacy belief construct has been postulated to lie at the very heart of human agency (Bandura, 1982). Thus, the finding that the increase in self-efficacy for the solution-focused group was over five times the size of the increase in self-efficacy for the problem-focused group is of importance to practitioners such as counselors and coaches who seek to help clients develop an enhanced sense of personal agency and competence.

**Comparing Increases in Goal Approach Scores and Action Planning**

Although enhanced self-efficacy is a vital factor in the solution-focused coaching or counseling relationship, it is only part of the picture. Clients need to be able to develop action steps that will help them move towards their goals and they need to be engaged in the process of goal attainment.

It is of interest to note that both the problem-focused and the solution-focused conditions were effective at enhancing goal approach. However, the increases in the solution-focused group were significantly greater than the increases for the problem-focused group. The solution-focused group’s goal approach scores increased on average 11.2% compared to the problem-focused group’s mean increase of 5.7%. Thus, in terms of enhancing goal approach, it would appear that the solution-focused approach was almost twice as effective as the problem-focused condition. However, it is important to note that the problem-focused approach was also effective in increasing goal approach: in merely thinking about the problem and thinking about their associated thought processes, participants felt as if they had moved closer to their goal. This is especially noteworthy given that participants were not asked to write about any goal approach behaviors or think about possible solutions during the problem-focused questioning process.

Of particular interest to practitioners is the finding that participants in the solution-focused group developed significantly more action steps that would help them achieve their goals than those participants in the problem-focused group. Indeed on average the solution-focused group developed 23.3% more action steps than the problem-focused group. The fact that the participants listed specific and objective action steps gives additional validity to this study, as the generation of specific action steps can be considered an objective outcome measure of performance and motivation, thus extending the evidence
furnished by the self-reported variables of positive and negative affect and self-efficacy.

The listing of specific action steps led to additional self-reported goal progression. After thinking of, and writing down, specific objective action steps, participants in both groups reported moving closer to their goals. Such increased goal approach following action planning is well-supported in the literature; action planning and the expression of implemental intensions has been found to facilitate goal attainment in a wide range of areas including education (Oettingen, Höning, & Gollwitzer, 2000), health (Chatzisarantis, Hagger, & Thogersen-Ntoumani, 2008) as well as more general life goals (Gollwitzer, 1999).

Implications for Practice

The results reported in this paper have some useful implications for practitioners. Firstly, the results give additional empirical support to the broader solution-focused enterprise. Although there are a number of reviews that have found support for the effectiveness of whole solution-focused intervention programs (Corcoran & Pillai, 2009), there have been very few empirical studies that have explicitly examined the efficacy of specific solution-focused techniques (Grant & O’Connor, 2010). The findings of this study give additional surety to solution-focused practitioners who want to ensure that their practice is evidence based.

Secondly, the results of this study emphasize the importance of eliciting specific action steps from clients at the end of a session. Many solution-focused coaches and consultants already place great emphasis on such techniques (Berg & Szabo, 2005). These results strongly support this practice.

Thirdly, these findings bring a measure of balance to conceptualizing solution-focused practice. The results of this study suggest that asking problem-focused questions can in fact help clients move towards their goals. It is often assumed in the solution-focused literature that references to problems or problem-talk is anathema. Yet in reality problem-focused and solution-focused approaches overlap, and coaching and counselling conversations are not entirely solution-focused or entirely problem-focused. In practice coaches and counsellors move between these two perspectives in order to best meet the specific needs of the client at any point in time. Many clients want to talk about their problems. Having the time and space to talk about problems can be cathartic, and preventing clients from doing so can reduce rapport or even be alienating. As Insoo Kim Berg said (Berg & Szabo, 2005), being solution focused does not mean being problem-phobic! The key here is to harness what works in the problem-focused modality whilst guiding the conversation towards solution-focused talk. As the results of
this study show, just thinking about problems helps participants move towards their goal. However, and this is an important point for practitioners to bear in mind, although a problem-focused approach may increase goal approach, it may not increase positive affect or reduce negative affect or increase self-efficacy. If we assume that it is important that clients feel energized and motivated by their sessions, then this study shows that focusing on solutions is indeed vital.

Limitations of the Present Study and Future Research
In a study such as this there are inevitable limitations and these should be taken into account in interpreting the findings. Firstly, the participants in this study were undergraduate psychology students who answered the questions on-line. It would be useful to replicate this study using actual clients in a face-to-face context, rather than with students in an on-line context. Secondly, there was no follow-up to examine the extent to which participants actually achieved their goals. Future research should conduct a follow-up evaluation to examine the extent to which the self-reported changes actualize in the form of real-world goal attainment. Although such a study would be complex to conduct, it could significantly build on and extend the findings presented in this paper. Despite these limitations, this study has extended the existing evidence base for solution-focused practice and empirical support for the use of solution-focused questions.

CONCLUSION
Although both the problem-focused and the solution-focused conditions were effective at enhancing goal approach, the solution-focused group had significantly greater increases in goal approach compared to the problem-focused group. In relation to affect, self-efficacy, and action planning, the solution-focused questions were overall far more effective than problem-focused questions. Thus, practitioners may choose to aim for a solution-focused theme in their work if they wish to conduct effective goal-focused sessions that build self-efficacy, increase positive affect and self-efficacy, and support the process of goal approach.

Solution-focused approaches are being increasingly used as a positive change methodology. However, there is still much to learn about what constitutes effective solution-focused practice. This study extends past work and represents a small but useful step in developing such knowledge, and moves forward the process of understanding the psychological mechanics of effective solution-focused practices.
REFERENCES


