APPLIED PSYCHOLOGY | RESEARCH ARTICLE

Self-regulation and solution-focused thinking mediate the relationship between self-insight and subjective well-being within a goal-focused context: An exploratory study

Joseph Selwyn and Anthony M Grant

Abstract: Self-insight, the clarity of one’s understanding of one’s thoughts, feelings and behaviour, has long been thought to be an important factor in change methodologies. It has been assumed that higher levels of self-insight are related to self-regulation and solution-focused thinking which facilitates goal striving. There has been little to no research that has explored the links between self-insight and self-regulation, or between solution-focused thinking and self-regulation. Further, there has been little research exploring the relationship between self-insight and subjective well-being (SWB). In a goal-priming process, 169 participants identified three specific goals that they have strived for over the past 3 years. The aim of this priming process was to make salient participants’ understanding of their personal capacity for self-regulation in the light of a real-life goal striving experience. Participants then completed measures related to self-regulation, self-insight, solution-focused thinking and SWB. Path analysis indicated that there was no direct path from self-insight to SWB, but self-insight significantly predicted self-regulation which in turn predicted solution-focused thinking, which then predicted SWB. Self-regulation displayed a significant positive relationship with SWB which was fully mediated by solution-focused thinking.

ABOUT THE AUTHOR
Joseph Selwyn has completed his undergraduate degree in psychology under the supervision of Professor Anthony Grant and continues to explore aspects of self-insight, self-regulation and self-control in both research and applied settings.

PUBLIC INTEREST STATEMENT
This research explores the links between self-insight and self-regulation (self-control), and between solution-focused thinking and self-regulation. It is often thought that the more time one spends in self-reflection, the greater one’s levels of self-insight and the greater one’s level of well-being. This research shows that these relationships are more complex than that, and that self-insight is more important than self-reflection in this goal attainment process and well-being. Self-insight works by facilitating self-control which in turn influences solution-focused thinking, which then enhances subjective well-being. The takeaway for those interested in enhancing goal attainment and boosting well-being is to ensure that you spend time building self-insight rather than solely focusing on improving self-control or engaging in deep self-reflection.
These exploratory findings have important implications for understanding the psychological “mechanics” of positive change processes.

**Subjects:** Work and Organizational Psychology; Executive Coaching; Coaching

**Keywords:** coaching; self-reflection; self-insight; well-being; self-regulation; solution-focused thinking; self-control

1. Introduction

Self-insight forms an integral part of the psychological mechanisms within coaching, counselling and psychotherapy approaches to instigating change and facilitating goal attainment. The notion that greater self-insight leads to enhanced levels of well-being is a fundamental assumption in a broad range of modalities including the psychodynamic (Freud, 1920), the systemic (Bowen, 1966), the cognitive behavioural (Beck & Emery, 1985) and solution-focused approaches (de Shazer, 1988). “Self-insight” can be understood as the clarity with which an individual is able to perceive and understand their thoughts, feelings and behaviour (Grant, Franklin, & Langford, 2002). There is now a significant amount of empirical research indicating the existence of a positive correlational relationship between self-insight and well-being (e.g., Beauvais, Özbaş, & Wheeler, 2019; Chen, Chen, & Pai, 2019; Harrington & Loffredo, 2011; Harrington, Loffredo, & Perz, 2014; Liu & Liu, 2018; Lyke, 2008). However, there has been comparatively little empirical work exploring the psychological mechanisms that underpin the correlational relationship between self-insight and well-being. This exploratory study seeks to address this issue.

Coaching, counselling and psychotherapy approaches vary in a number of ways including in terms of the levels of psychopathology exhibited by typical clients. For example, coaching clients are generally deemed to have lower levels of mental illness problems than counselling and psychotherapy clients. However, there are also many similarities between coaching, counselling and psychotherapy, regardless of specific theoretical orientation or the client’s levels of mental health. This is because the change process facilitated by coaching, counselling and psychotherapy practitioners all involve the following: (1) identification of a problematic issue; (2) the articulation of a goal or preferred outcome state; (3) an orientation towards potential solutions; (4) the development of action plans or steps; (5), the enactment of such plans and (6) then a process of monitoring, evaluating and adapting in response to feedback.

In essence, all purposeful change modalities aim to enhance the client’s ability to self-regulate and to achieve an improved sense of well-being (Keller, Eisen, & Hanss, 2019). Thus, a better understanding of the relationships between self-insight, self-regulation, solution-focused thinking and well-being would potentially benefit a wide range of positive change interventions and potentially lead to more effective change methodologies within coaching, counselling and psychotherapeutic contexts.

This paper explores the relationships between self-insight, self-regulation, solution-focused thinking and subjective well-being (SWB). To set the context, we initially present an overview of the self-regulation processes that sit at the heart of goal-focused, intentional change. We then present an overview of the empirical research detailing the relationship between self-insight and SWB and present a proposed model that may represent the relationships between these constructs. Finally, following the discussion of our findings, we present some recommendations for further research and practice.

1.1. Overview of the goal-focused self-regulation processes

The enhancement of an individuals’ capacity to self-regulate sits at the heart of all goal-focused intentional change processes (Keller et al., 2019). The role of the coach, counsellor or psychotherapist is to help the client articulate their problematic issue or issues and then (1) identify
potential desired outcomes, (2) help the client define their goals, (3) enhance the client's motivation by identifying personal strengths and building their self-efficacy, (4) identify potential resources and formulate specific action plans, (5) facilitate a monitoring and evaluation process and (6) modify action steps or goals (based on the evaluation of progress). As shown in Figure 1, the monitor—evaluate—modify steps form a change cycle of self-regulated change (Carver & Scheier, 1998) and this is central to all goal-focused intentional change processes.

1.2. Self-insight and self-regulation

Self-insight, “the clarity of one’s understanding of one’s thoughts, feelings and behaviour” (Grant et al., 2002, p. 821), is a metacognitive factor central to the process of purposeful, directed change (Boyatzis, 2006). It should be noted that there are three main conceptualisations of “insight” in psychology: (1) cognitive insight—which is result of complex problem-solving (often described as the “aha” moment; Topolinski & Reber, 2010); (2) clinical insight—which relates specifically to the self-understanding of psychiatric illness (Marková & Berrios, 1992) and (3) self-insight—one’s understanding of one’s thoughts, feelings and behaviour (Grant et al., 2002). This paper refers to self-insight.

Successful purposeful progress through the cycle of self-regulation towards a specific and appropriate goal is directed by an individual’s self-insight—which impacts their ability to monitor and evaluate their progress (on cognitive, affective and behavioural levels) and use such feedback to improve their performance (Bandura, 1991; Boyatzis & Howard, 2013; Gregory & Levy, 2015; Hyland, 1988). The theoretical relationship between self-insight and self-regulation (e.g., see Gregory & Levy, 2015; Hyland, 1988) is supported by empirical research. Grant et al. (2002) reported a correlation of $r = .23$ between self-insight and self-regulation, Cheers (2014) reported a correlation of $r = .51$ and Nakajima, Tokano, and Tanno (2017) reported a correlation of $r = .41$. Both self-insight and self-regulation have been found to increase following participation in a coaching programme (e.g., Chow, Lam, Leung, Wong, & Chan, 2011; Leung et al., 2011), further indicating links between these two constructs and their relevance to the goal-focused intentional change processes.
1.3. Past correlations between self-insight and SWB

There has been increasing interest worldwide in the links between self-insight and SWB. SWB is defined as “a person’s cognitive and affective evaluations of his or her life” (Diener, Lucas, & Oishi, 2002, p. 63). The cognitive aspect of SWB refers to what one thinks about his or her life satisfaction and the affective aspect refers to one’s emotions, moods and feelings.

The research findings on a positive relationship between self-insight and SWB (or proxy measures of SWB such as happiness and psychological well-being) have been remarkably consistent, both in terms of the positive relationship between self-insight and well-being and in terms of cross-cultural findings. For example, in the US community population, Lyke (2008) found that self-insight was significantly positively associated with satisfaction with life ($r = .38$) and with subjective happiness ($r = .38$). Using the Brazilian version of the Self-Reflection and Insight Scale (SRIS; Grant et al., 2002), Vieira, Vieira, Gomes, and Gauer (2013) found a positive relationship between self-insight and the World Health Organization’s quality of life measure ($r = .34$) with Brazilian women. Self-insight has also shown a predictable negative relationship with anxiety and depression. Using the Turkish version of the SRIS, Aşkun and Çetin (2017) found a negative correlation between self-insight and social anxiety ($r = -.40$). Nakajima, Takano, and Tanno (2018) reported a negative correlation between self-insight and depression ($r = -.39$) with a Japanese population. Similar findings have been reported by a wide range of researchers (e.g., Cowden & Meyer-Weitz, 2016; Haga, Kraft, & Corby, 2009; Harrington & Loffredo, 2011; Harrington et al., 2014; Silvia & Phillips, 2011).

Although the positive relationship between self-insight and well-being appears to be well established, it is not clear why such a positive relationship should exist. Indeed, it has been argued that self-insight could just as easily be associated with anxiety, stress or depression (Nakajima et al., 2018). To date, there has been little research exploring why self-insight is related to well-being. One study by Stein and Grant (2014) found that positive core self-evaluations mediated the relationship between self-insight and SWB. The present study aims to extend Stein and Grant’s (2014) findings by examining the possibility that self-regulation and solution-focused thinking play a role in the relationship between self-insight and SWB within the context of goal-focused change.

1.4. Self-insight and solution-focused thinking

It has long been assumed that, within the context of goal-focused intentional change, that self-insight is associated with solution-focused thinking (Bandura, 1977). The rationale here is that as people engage with their goals, they need to develop a thinking style that is solution-focused, that is they need a style of thinking that is orientated towards imagining their goals, developing effective action plans, avoiding getting stuck in thinking about their problems and noticing and activating potential resources. To engage in such solution-focused thinking successfully, one needs to have an awareness of one’s thoughts, feelings and behaviours. People need a clear idea about why they’ve behaved in a certain way and they need to be able to make sense of the way they feel about things—that is, they need good levels of self-insight.

Despite this being a sound rationale for a relationship between self-insight and solution-focused thinking, there have been very few empirical studies that have examined the actual correlations between self-insight and goal-orientated or solution-focused thinking. For example, Lakota (2010) reported a correlation of $r = .47$ and Grant and Cavanagh (2007) reported a correlation of $r = .33$. However, there is a larger body of research showing that participation in a solution focused, cognitive behavioural coaching programme increases both solution-focused thinking and self-insight (Athanasopoulou & Dopson, 2018; Theeboom, Beersma, & van Vianen, 2013), and such findings suggest that there are consistent links between self-insight and solution-focused thinking.

1.5. Modelling the relationships

Based on the discussion so far, it would appear to be self-evident that, within a goal-focused change context, there is a clear relationship between self-insight, self-regulation, solution-focused thinking and SWB. Although many of the relationships between these variables have been
measured individually or have been observed as changes following participation in a coaching programme, we are not aware of any published research that has attempted to model the relationships between all of these four constructs. Given the increasing amount of research that has identified the positive correlation between self-insight and SWB, we are particularly interested in exploring the relationship between self-insight and SWB when the constructs of self-regulation and solution-focused thinking are factored into a model.

In summary: Self-insight is an essential component of self-regulation (Bandura, 1991), and it is through the ability to self-regulate that one is able focus on solutions (Baumeister & Heatherton, 1996; Carver & Scheier, 2012). In addition, because focusing on solutions is akin to mentally experiencing or savouring a desired outcome (Finn, 2008) and engaging in solution-focused thinking has been found to induce positive affect (Grant, 2012) and to be negatively correlated with anxiety, stress and depression (Grant et al., 2012), solution-focused thinking is likely to be related to well-being in our model. Hence, our hypotheses is that self-insight will be positively related to self-regulation, which in turn will be related to solution-focused thinking and these two constructs will meditate the relationship between self-insight and SWB. We present a hypothesis path model in Figure 2. The aim of this study was to test this model.

2. Method

2.1. Participants
In order to employ a diverse and multifaceted sample, we recruited participants from both university students and the general population. The use of samples that are restricted to student populations has long been recognised as problematic (Peterson, 2001). A key issue has been the possible discrepancies between the student populations used in much psychological research and the characteristics of the general (non-student) population (Gallander, North, & Sugar, 2001), leading to a potential lack of confidence in the generalisability of findings (Blair & Zinkhan, 2012). With these issues in mind, we recruited a total of 169 individuals (100 females; 69 males; mean age 32.86) from both the student and the general populations. Participants were 69 first-year psychology students (47 females; 22 males; average age: 19.58 years) who received course credit for their participation, and 100 general population participants recruited through Mechanical Turk (53 females; 47 males; average age: 40.02 years) who received monetary compensation for taking part.

Our total sample size of 169 is slightly smaller than other work in this area. For example, Harrington et al. (2014) used a sample size of 184, Silvia and Phillips (2011) used a sample size of 233 and Stein and Grant (2014) used a sample size of 227. Past research has typically found medium to large effects sizes in exploring the relationships between the variables such as self-insight, self-regulation, solution-focused thinking and SWB. Cohen (1992, p. 158) posits that a sample size of 84 should be sufficient to detect the expected medium effect size with a power of .80. Thus, the current sample provides appropriate statistical power for this study’s design.

2.2. Measures
Self-insight was measured using the 8-item self-insight (INS) sub-scale of the SRIS (Grant et al., 2002). Examples of items include “I am usually aware of my thoughts” and “I usually know why I feel the way I do.” This scale has demonstrated good construct validity and is positively correlated with measures of cognitive flexibility and self-regulation and negatively correlated with...
depression, anxiety, stress and alexithymia (Grant et al., 2002; Harrington & Loffredo, 2011; Lyke, 2008). The SRIS has high internal consistency (Cronbach’s $\alpha$ ranging from .85 to .91) and test–retest reliability ($\alpha$ of between .77 and .78) (Grant et al., 2002; Roberts & Stark, 2008). The SRIS has been translated into a range of languages including Chinese (Chen, Lai, Chang, Hsu, & Pai, 2016), Turkish (Aşkun & Çetin, 2017), Portuguese (DaSilveira, DeCastro, & Gomes, 2012), Dutch (Sauter, Heyne, Blöte, van Widenfelt, & Westenberg, 2010) and Korean (Song & Kim, 2018). All published translations have shown reliable psychometric properties. Cronbach’s $\alpha$ for the present study was .90.

**Trait self-regulation** was measured using the Self-Control Scale (SCS; Tangney, Baumeister, & Boone, 2004). The SCS has high internal consistency (Cronbach’s $\alpha = .89$) and good construct validity, being positive correlated with broad range of behaviours—including resisting temptation, emotional regulation and physical and psychological health, academic achievement and negatively correlated with alcohol abuse and measures of psychopathology (Tangney et al., 2004). Cronbach’s $\alpha$ for the present study was .94.

**Solution-focused thinking** was measured using eight items from the solution-focused thinking inventory (SFI; Grant et al., 2012). The SFI has been found to be a reliable and valid measure of solution-focused thinking and to be correlated with perspective taking capacity, resilience and psychological well-being (Del Carmen Neipp, Tirado, Beyebach, & Del Carmen Martínez González, 2017). Item examples include “Setbacks are a real opportunity to turn failure into success,” “There are always enough resources to solve a problem if you know where to look” and “There is always a solution to every problem.” The SFI has been translated into a number of languages including Chinese (Yang & Hai, 2015) and Spanish (del Carmen Neipp et al., 2017) all displaying appropriate psychometric characteristics. Cronbach’s $\alpha$ for the present study was .86.

SWB comprises an individual’s cognitive and affective evaluations of their life experience (Diener, Suh, & Oishi, 1997) and has been demonstrated to have a single factor structure across genders and ethnicities (Linley, Maltby, Wood, Osborne, & Hurling, 2009). Previous studies in this area have measured SWB using a composite score made up from scales that combine both cognitive and affective factors of life evaluations (e.g., Stein & Grant, 2014). The present study measured SWB as a single variable extracted from the scores of two scales covering different areas of well-being: the Subjective Happiness Scale (SHS) for an affective perspective (Lyubomirsky & Lepper, 1999) and the Satisfaction with Life Scale (SWLS) for a cognitive perspective (Diener, Emmons, Larsen, & Griffin, 1985).

SHS (Lyubomirsky & Lepper, 1999) is a 4-item scale that measures a participants’ personal affective perspective of their happiness level. The scale shows good internal reliability ($\alpha = .86$) and construct validity. Cronbach’s $\alpha$ for the present study was .90.

SWLS (Diener et al., 1985) is a 5-item scale that measures an individual’s satisfaction with their life and as such is a cognitive measure of well-being. Item examples include: “I am satisfied with my life.” Diener et al. (1985) report good internal reliability ($\alpha = .87$) and good test–retest reliability ($r = .82$). Cronbach’s $\alpha$ for the present study was .91.

**2.3. Procedure**

As this study was exploring the relationships between self-insight, self-regulation, solution-focused thinking and SWB in relation to clinical, counselling and coaching-related change methodologies, we set a contextual goal-related framework by asking participants to identify, think about and then describe three goals that they had specifically pursued over the past 3 years: “These goals may relate to any part of your life (e.g., academic, health, relationships). Some examples might include “perform at my best academically,” “develop stronger relationships with my family” etc.

The aim of this priming process was to make participants’ understanding of their personal capacity for self-regulation salient in the light of a personal real-life goal striving experience. This is an
important methodological point as the reliability of the findings of psychological studies such as these can be undermined when participants hold personal frames of references that are incongruent with the issues being studied (Lievens, de Corte, & Schollaert, 2008). The use of a common frame of reference leads to higher methodological validity as a result of the reduction of between-person variability and within-person inconsistency, and it is also important to use a frame of reference that is conceptually relevant to the criterion being studied (Lievens et al., 2008). Participants then completed the measures related to self-insight, self-regulation, solution-focused thinking and SWB.

3. Results

3.1. Factor analysis of SWB measures
Results on the SWLS and SHS were found to be normally distributed and positively correlated \( (r = .643, p < .01) \), satisfying the requirements for an exploratory factor analysis (Thompson, 2004). In line with Costello and Osborne’s (2005) recommendations, the principal axis factoring approach was used in order to determine whether a single latent variable could be extracted from the two well-being measures. The factor analysis produced a single factor with an Eigenvalue greater than 1, a result which was supported by Cattell’s scree plot. This single factor explained 64.2% of variance in the underlying variable and factor loadings were .801 for SWLS and .801 for SHS. Our results support the single factor model of SWB. In order to estimate the SWB latent variable, this study used SPSS factor scores as recommended by Marsh (2001) and as used by Stein and Grant (2014) and these scores were used in the subsequent path analyses.

3.2. Correlational analyses
Table 1 shows the pattern of correlations between the variables of interest. Results supporting our hypotheses were that self-insight held significant positive relationships with each of self-regulation, solution-focused thinking and SWB. As predicted, both self-regulation and solution-focused thinking held significant positive relationships with SWB.

3.3. Preliminary analyses
Two significant main effects of age were found in our study. For every standard deviation increase in age, participants scored on average .491 standard deviations higher for self-insight \( (F_{1,167} = 53.13, p < .01) \), and on average .476 standard deviations higher for self-control \( (F_{1,167} = 49.04, p < .01) \). Additionally, two main effects of group were found. Participants in the MTURK sample scored significantly higher on self-insight than those in the student sample \( (F_{1,167} = 114.70, p < .01) \), and also significantly higher on trait self-control \( (F_{1,167} = 97.33, p < .01) \). These results are aligned with previous research which found that self-insight is significantly associated with age (Lakota, 2010; Roberts & Stark, 2008). We thus conducted separate path analyses, segmenting the data based on group and also on age. However, the results of these path analyses did not differ significantly from one another. Thus, our final path analysis was collapsed across age and group. We did not find statistically significant relationships between gender and our variables of interest (see Figure 3).

### Table 1. Intercorrelations, means and standard deviations

| Measure | 1 | 2 | 3 | 4 | Mean | SD | Cronbach α |
|---------|---|---|---|---|------|----|------------|
| 1. INS  |   |   |   |   | 36.13 | 7.83 | .896       |
| 2. SCS  | .621** |   |   |   | 126.77 | 23.66 | .940       |
| 3. SFI  | .328** | .370** |   |   | 35.85 | 6.07 | .858       |
| 4. SWB  | .252** | .304** | .304** |   | .00 | .88 | .922       |

INS, Self-insight; SCS, Self-control scale (self-regulation); SFI, solution-focused thinking inventory (solution-focused thinking); SWB, Subjective well-being: ** = \( p < 0.01 \).
3.4. Path analysis

The goodness of fit measures indicates that the path model (see Figure 3) provided a good fit with 2 degrees of freedom ($K^2/df = 1.405$, $CFI = .995$ and $RMSEA = .049$ with 90% CI [.000:.169]). Brown and Cudeck (1993) suggest that $RMSEA > .10$ represents an unacceptable model fit and $RMSEA$ of 0.05–0.08 represents a fair fit. This position is supported by others including MacCallum, Browne, and Sugawara (1996). Thus, our findings are in line with past work and indicate that this model is indeed a good fit.

3.5. Direct effects

All direct effects in this path analysis were significant, except that between self-insight and solution-focused thinking. As hypothesised, scores on the self-insight sub-scale significantly predicted scores on the self-control scale ($\beta = .62, p < .001$). However, in this path analysis, self-insight was not observed to directly predict solution-focused thinking ($\beta = .161, p = .076$). This lack of a direct effect between self-insight and solution-focused thinking occurs because the relationship is fully mediated by self-control. Self-regulation was observed to significantly predict solution-focused thinking ($\beta = .27, p < .01$). Solution-focused thinking was in turn shown to directly predict levels of SWB ($\beta = .56, p < .001$) (see Table 2).

3.6. Indirect effects

Using bootstrapping analyses, the self-insight scale demonstrated a significant indirect effect on solution-focused thinking through self-control ($\beta = .168, p < .01$). Self-insight also demonstrated a significant indirect effect on SWB through both self-control and solution-focused thinking ($\beta = .183, p < .01$). Finally, self-control demonstrated a significant indirect effect on SWB through solution-focused thinking ($\beta = .150, p < .01$).

| Table 2. Standardized indirect and total effects |
|-----------------------------------------------|
| **Indirect effects** | **Total effects** |
| **INS** | **SCS** | **INS** | **SCS** | **SFI** |
| **SCS** | \(-\) | \(-\) | \(.621^{**}\) | \(-\) | \(-\) |
| **SFI** | \(.168^{*}\) | \(-\) | \(.328^{*}\) | \(.270^{*}\) | \(-\) |
| **SWB** | \(.183^{*}\) | \(.150^{*}\) | \(.183^{*}\) | \(.150^{*}\) | \(.557^{**}\) |

INS, Self-insight; SCS = Self-control scale (self-regulation); SFI, solution-focused thinking inventory (solution-focused thinking); SWB, Subjective well-being. $^{**} = p < .001; ^{*} = p < .01$. 
3.7. Total effects

The total effect of self-insight on solution-focused thinking was .328, \( p < .01 \) and on SWB was .183, \( p < .01 \). The model accounted for 39% of the variance in self-control, 15% of the variance in solution-focused thinking and 31% of the variance in SWB.

4. Discussion

In order to explore the relationship between self-insight and SWB in the context of a coaching-related, goal-orientated frame of reference, we primed participants to think about their real-life experiences of goal striving and then asked them to complete a series of measures related to goal striving, namely, self-insight, self-regulation, solution-focused thinking and SWB.

Self-insight, self-regulation and solution-focused thinking all displayed significant total effects on SWB and higher self-insight was associated with higher levels of self-regulation. Unexpectedly, within the pathway analysis model, self-insight did not directly predict SWB. Rather, self-insight displayed a significant indirect effect on SWB through self-regulation and solution-focused thinking. Furthermore, and unexpectedly, within the model, self-regulation did not display a direct association with SWB. The effects of self-insight and self-regulation on SWB were entirely mediated by solution-focused thinking. Thus, this model provides evidence that self-regulation plays an important role in solution-focused thinking and that solution-focused thinking plays a vital role in SWB. It appears that higher self-insight is predictive of greater solution-focused thinking among individuals with high self-regulation, and in turn these factors facilitate higher levels of SWB.

In addition to adding empirical weight to a range of theoretical understandings of self-regulation (e.g., Gregory & Levy, 2015; Hyland, 1988; Karoly, 1993; Zimmerman, 1994), as will be discussed, our findings have practical significance to coaches and agents of change by highlighting the vital role that self-insight plays in the goal-focused, self-regulation process.

4.1. Virtuous or vicious cycles

Based on our study, within a goal-orientated context, it would appear that the ability to engage in solution-focused thinking rests upon an individual’s capacity for self-regulation. That is, the more capable that an individual is in altering their dominant (e.g., problematic) response tendencies, the more likely it is that they are to then be able to focus on developing solutions to their problems (de Ridder, Lensvelt-Mulders, Finkenauer, Stok, & Baumeister, 2012). This makes sense what one considers the nature of the “virtuous cycle”—a positive feedback loop consisting of a chain of events in which each iteration of the cycle reinforces the previous one (see Figure 1). In this case, as people develop confidence based on their self-perceived ability for self-regulation, their willingness to confront personal problems and focus on their goals may grow and a solution-focused mindset becomes more dominant. Self-regulation has long been considered integral in facilitating positive outcomes in one’s life (Vohs & Baumeister, 2016). An increase in self-regulation in one behavioural domain has also been shown to improve self-regulatory success across other domains (Oaten & Cheng, 2007). Our study suggests that this generalisation effect may occur because greater self-regulation leads to higher levels of solution-focused thinking. The finding that there were significant main effects of age for self-insight and for self-regulation also lends support for the “virtuous cycle” notion—because older people presumably have had more experience with goal striving over the course of their lives.

On the other hand, in situations where a person has a limited capacity for self-regulation, they may be less inclined to focus on solutions because they do not perceive themselves as having the capacity to implement any effective behavioural strategies. Indeed, such conceptualisation echoes Bandura's (1977) notion of behavioural change and its relationship to self-efficacy. Although goal attainment itself was not measured in the present study, it can be speculated that where people experience chronic failure to reach their goals over a period of time, their sense of SWB would be lowered and one would expect to find a lower level of self-insight, lower solution-focused thinking and a lower capacity for self-regulation. The notion of a “vicious cycle” of self-defeating behaviour
has long been recognised (Olden, 1943; Seligman, 1974) and future research drawing on our model may help illuminate some of the psychological mechanisms at play.

### 4.2. Links to SWB: two conundrums

This study has extended our understanding of the relationship between self-insight and SWB. The SRIS (Grant et al., 2002) used in this study has been increasingly used to explore the role of self-reflection and self-insight in a wide range of goal-focused contexts, including improving caring behaviour in nurses (Chen, Chang, & Pai, 2017), improving critical thinking in physiotherapists (Huhn, 2017) personal and professional development in executive coaches (Grant, 2008), success in competitive rowing (Kiosoglous & Vidic, 2017) and dealing with complex organisational change (Grant, 2014) amongst others.

In the course of research into the roles of self-reflection and self-insight as components of goal-orientated change, two conundrums have emerged. The first conundrum stems from the observation that self-reflection, “the inspection and evaluation of one's thoughts, feelings and behaviour” (Grant et al., 2002, p. 821), is not necessarily positively related to self-insight, “the clarity of one’s understanding of one’s thoughts, feelings and behaviour” (Grant et al., 2002, p. 821). For example, using the SRIS, Lyke (2008) found that self-reflection did not correlate with self-insight, a finding that has been replicated many times (e.g., Aşkun & Çetin, 2017; Chen et al., 2016; Grant et al., 2002; Sauter et al., 2010).

This is a conundrum because many theoretical frameworks used to underpin coaching, counselling and psychotherapeutic modalities posit that self-insight is an outcome of self-reflection (e.g., Beck, 1995; Freud, 1920; Rogers, 1961). The disparity between self-reflection and self-insight has been long observed (e.g., Anderson, Bohon, & Berrigan, 1996; Nisbett & Wilson, 1977; Trapnell & Campbell, 1999; Wilson & Schooler, 1991). Contemporary research using the SRIS has found that the relationship between self-reflection and self-insight is mediated by dysfunctional attitudes and negative or positive views of the self (Nakajima et al., 2018; Stein & Grant, 2014). That is, where an individual has levels of depression or holds dysfunctional attitudes about themselves, engaging in self-reflection is more likely to lead to rumination and decreased SWB rather than lead to enhanced self-insight (Elliott & Coker, 2008).

The second conundrum that has not received as much attention as the first is the relationship between self-insight and SWB. As previously mentioned, it is not initially obvious that higher levels self-insight should necessarily be associated with higher levels of SWB. Theoretically speaking, one could have low levels of SWB and high levels of self-insight. However, the empirical research has regularly demonstrated a positive relationship between self-insight and SWB—people with high levels of self-insight are significantly more likely to have high levels of SWB (e.g., Haga et al., 2009; Wang, Wang, Heppner, & Chuang, 2017). The relationship between self-insight and SWB thus constitutes a second conundrum in the context of goal-focused change.

In the current exploratory study, self-insight displayed a significant positive indirect effect on SWB through self-regulation and solution-focused thinking—the entire effect of self-insight on SWB was accounted for through the mediating role of these variables. This novel finding has extended our understanding of the roles of self-insight, self-regulation and solution-focused thinking within the context of goal-focused change and has implications for practitioners and future research.

### 4.3. Practical implications

This study has a number of practical implications for coaches, counsellors and psychotherapists. While it is clear that self-insight is a vital construct in the goal-orientated change process, self-insight is not in itself sufficient in terms of enhancing SWB. Insight-orientated approaches that focus purely or substantially on enhancing self-insight should also include interventions that build self-regulation. Merely facilitating the development of self-insight, for example, by focusing on a cathartic approach to a “talking therapy” may be less helpful for building SWB than incorporating goal-focused interventions.
that explicitly build one’s capacity for self-regulation. Such observations echo much past discussion on the relative merits of cognitive and behavioural approaches to therapy (Sweet & Loizeaux, 1991).

A second key implication from this study relates to the importance of solution-focused thinking in enhancing SWB within a goal-focused change context. This model suggests that coaches, counsellors and psychotherapists should be mindful about building a solution-focused thinking capability in their clients rather than spending too much time in problem analysis. Indeed, past research has shown that problem-focused coaching approaches are less effective than solution-focused approaches in terms of enhancing well-being and facilitating goal progression (Grant, 2012). While the above-mentioned issues have been discussed many times in the literature, the current research stands as a reminder that agents of change working within a goal-focused context need to take an approach that jointly enhances self-insight, self-regulation and solution-focused thinking in order to better facilitate the enhancement of SWB.

4.4. Limitations and future research directions

In common with much of the psychological research in this area, this study utilised self-report data. Podsakoff, MacKenzie, Lee, and Podsakoff (2003, p. 879) provide a detailed exposition of the problems associated with common method variance (i.e., the variance that arises from the measurement method itself rather than the constructs that the measures represent). Method variance can either inflate or deflate the observed relationships between constructs, potentially leading to Type I or Type II errors. Podsakoff et al. (2003) are particularly critical of self-report measures. However, to date, some psychological constructs such as self-insight can only be measured using self-report measures. Nevertheless, following Podsakoff, MacKenzie, and Podsakoff’s (2012) recommendations, future research should seek to utilise objective measures where possible and to use larger samples than the present study. Regardless, this exploratory study has shone a measure of light in the relationship between self-regulation, solution-focused thinking and self-insight and SWB.

Although this model demonstrated good fit and presents novel findings within a goal-focused intentional change context, we did not include variables such as self-reflection or other constructs that have previously been shown to be of importance within a goal-focused self-regulation context (Boyatzis & Akrivou, 2006)

For example, Stein and Grant (2014) found that the relationships between self-reflection and self-insight were suppressed by dysfunctional attitudes, and Nakajima et al. (2018) found a significant moderating role of negative self-complexity in the associations among self-insight, depressive symptoms and stress. Future research could draw on such findings and seek to develop a more sophisticated model than the one presented in the present study. This newer model could aim to give a complete pathway from (1) goal priming or goal setting, (2) self-reflection through to (3) self-insight to (4) SWB and then to (5) goal attainment, while including mediating factors such as dysfunctional attitudes and self-complexity. Such a study would usefully extend the novel findings presented here and help develop a more complete model of self-regulation within a goal-focused change context. Such an approach could allow exploration of some of the differences between research into the underlying psycho-mechanics of psychotherapy, counselling and coaching research.

5. Summary

The present exploratory study aimed to extend previous research into the relationship between self-insight and SWB and to explore this relationship within the context of goal-focused change. The influence of both self-insight and self-regulation on SWB was completely mediated by solution-focused thinking. Thus, while self-insight and self-regulation are important, they are not themselves sufficient to enhance SWB in a goal-focused context. This novel finding has extended our understanding of the roles of self-insight, self-regulation, solution-focused thinking and SWB within the context of goal-focused change and highlights the apparently vital role that solution-focused thinking plays in relation to SWB and within goal-focused change contexts. This exploratory study stands as a
reminder that agents of change need to take an approach that jointly enhances self-insight, self-regulation and solution-focused thinking in order to better facilitate the enhancement of SWB.

Funding
The authors received no direct funding for this research.

Author details
Joseph Selwyn E-mail: jel9977@uni.sydney.edu.au
Anthony M Grant E-mail: anthony.grant@sydney.edu.au

School of Psychology, University of Sydney, Sydney, Australia.

Author statement
Professor Anthony Grant is globally recognised as a key pioneer of Coaching Psychology and evidence-based approaches to coaching. He has over 100 coaching-related publications and he is a key contributor to the evidence-base of coaching. His research has a wide span, from randomised controlled studies of the impact of coaching in education, health and organisational settings, to research that looks at the psycho-mechanics of coaching in terms of self-insight, solution-focused thinking and self-reflection. He supervised Joseph Selwyn’s postgraduate research, from which this paper is derived. Anthony holds a number of positions including Director of the Coaching Psychology Unit at the University of Sydney, Visiting Professor at Oxford Brookes University and Henley Business School, and an Associate Fellow at the Said School of Business, Oxford University. He has received numerous international awards in recognition of his contributions to evidence-based approaches to coaching.

Citation information
Cite this article as: Self-regulation and solution-focused thinking mediate the relationship between self-insight and subjective well-being within a goal-focused context: An exploratory study. Joseph Selwyn & Anthony M Grant, Cogent Psychology (2019), 6: 1695413.

References
Anderson, E. M., Bohon, L. M., & Berrigan, L. P. (1996). Factor structure of the private self-consciousness scale. Journal of Personality Assessment, 66(1), 144–152. doi:10.1207/s15327752jp06601_11
Aşkınu, D., & Çetin, F. (2017). Turkish version of self-reflection and insight scale: A preliminary study for validity and reliability of the constructs. Psychological Studies, 62(1), 21–34. doi:10.1007/s12646-017-0390-1
Athanasopoulou, A., & Dopson, S. (2018). A systematic review of executive coaching outcomes: Is it the journey or the destination that matters the most? The Leadership Quarterly, 29(1), 70–88. doi:10.1016/j.leaqua.2017.11.004
Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 84(2), 191–215. doi:10.1037/0033-295x.84.2.191
Bandura, A. (1991). Social cognitive theory of self-regulation. Organizational Behavior and Human Decision Processes, 50(2), 248–287. doi:10.1016/0749-5978(91)90022-L
Baumeister, R. F., & Heatherton, T. F. (1996). Self-regulation failure: An overview. Psychological Inquiry, 7(1), 1–15. doi:10.1080/15327965830701_1
Beauvais, A. M., Özbay, A. A., & Wheeler, K. (2019). End-of-life psychodrama: Influencing nursing students’ communication skills, attitudes, emotional intelligence and self-reflection. Journal of Psychiatric Nursing/Psiykiatri Hemsireleri Derneği, 10(2), 103–110.
Beck, A. T. (1995). Cognitive therapy: Past, present, and future. New York, NY: Springer Publishing.
Beck, A. T., & Emery, G. (1985). Anxiety disorders and phobias: A cognitive perspective. New York: Harper Collins.
Blair, E., & Zinkhan, G. M. (2012). Nonresponse and generalizability in academic research. Journal of the Academy of Marketing Science, 34(1), 4–7. doi:10.1177/0092070012462917
Bowen, M. (1966). The use of family theory in clinical practice. Comprehensive Psychiatry, 7(1), 345–374. doi:10.1016/S0010-440X(66)80065-2
Boyatzis, R. E. (2006). An overview of intentional change from a complexity perspective. Journal of Management Development, 25(7), 607–623. doi:10.1108/02611710610678445
Boyatzis, R. E., & Akhiou, K. (2006). The ideal self as the driver of intentional change. Journal of Management Development, 25(7), 624–642. doi:10.1108/02611710610678454
Boyatzis, R. E., & Howard, A. (2013). When goal setting helps and hinders sustained, desired change. In S. David, D. Clutterbuck, & D. Megginson (Eds.), Beyond goals: Effective strategies for coaching and mentoring (pp. 211–228). Farnham: Gower.
Brown, M., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), Testing structural equation models (pp. 136–182). Newbury Park, CA: Sage.
Carver, C. S., & Scheier, M. F. (1998). On the self-regulation of behavior. Cambridge, UK: Cambridge University Press.
Carver, C. S., & Scheier, M. F. (2012). Attention and self-regulation: A control-theory approach to human behavior. New York, NY: Springer Science & Business Media.
Cheers, D. (2014). Does self-regulation mediate the relationship between insight and well-being? (Unpublished thesis). School of Psychology, University of Sydney, Australia.
Chen, F-F., Chen, S-Y., & Pai, H-C. (2019). Self-reflection and critical thinking: The influence of professional qualifications on registered nurses. Contemporary Nurse, 55(1), 59–70. doi:10.1080/10376178.2019.1590154
Chen, S. Y., Chang, H. C., & Pai, H. C. (2017). Caring behaviours directly and indirectly affect nursing students’ critical thinking. Scandinavian Journal of Caring Sciences, 32(1), 197–203.
Chen, S.-Y., Lai, -C.-C., Chang, H.-M., Hsu, H.-C., & Pai, H.-C. (2018). Chinese version of psychometric evaluation of self-reflection and insight scale on taiwanese nursing students. Journal of Nursing Research, 26(4), 337–346. doi:10.1016/j.jnurres.2017.08.013
Chow, A. Y. M., Lam, D. O. B., Leung, G. S. M., Wong, D. F. K., & Chan, B. F. P. (2014). The ideal self as the driver of intentional change. Journal of Management Development, 25(7), 624–642. doi:10.1108/02611710610678454
Chun, K., & Grant, A. M. (2016). A power primer. Psychological Bulletin, 122(1), 155–159. doi:10.1037/0033-2909.122.1.155
Costello, A. B., & Osborne, J. W. (2005). Best practices in exploratory factor analysis: Four recommendations or getting the most from your analysis. Practical Assessment, Research & Evaluation, 10(7), 1–9.
Cowden, R. G., & Meyer-Weitz, A. (2016). Self-reflection and self-insight predict resilience and stress in competitive tennis. Social Behavior and Personality: an
International Journal, 44(7), 1133–1149. doi:10.12244/ sjbp.2016.44.7.1133

DaSilveira, A. D. C., DeCastro, T. G., & Gomes, W. B. (2012). Self-reflection and insight scale: New measure of self-awareness adapted and validated for brazilian adults. PSICO, 43(2), 155–162.

de Ridder, D. T., Lensvelt-Mulders, G., Finkenauer, C., Stok, F., & Baumeister, R. F. (2012). Taking stock of self-control: A meta-analysis of how trait self-control relates to a wide range of behaviours. Personality and Social Psychology Review, 16(1), 76–99. doi:10.1177/1088868311417949

de Shazer, S. (1988). Clues: Investigating solutions in brief therapy. New York, NY: Norton & Co.

del Carmen Neipp, M., Tirado, S., Beyebach, M., & del Carmen Martinez Gonzalez, M. (2017). Spanish adaptation of the solution-focused inventory (sfi). Terapia Psicológica, 35(1), 5–14. doi:10.1016/j.tfpsi.2017.08.001

Diener, E., Emmons, R., Larsen, R., & Griffin, S. (1985). The satisfaction with life scale. Journal of Personality Assessment, 49(1), 71–75. doi:10.1207/s15327752jpa4901_13

Diener, E., Lucas, R. E., & Oishi, S. (Eds.). (2001). Personal life coaching for coaches-in-training. New York, NY: Oxford University Press.

Diener, E., Suh, E. M., & Oishi, S. (1997). Recent findings on subjective well-being. Indian Journal of Clinical Psychology, 21(1), 25–41. doi:10.1037/h0092541

Elliot, I., & Coker, S. (2008). Independent self-construal, self-reflection, and self-rumination: A path model for predicting happiness. Australian Journal of Psychology, 60(3), 127–134. doi:10.1080/0049530701447368

Finn, J. (2008). An introduction to using mental skills to enhance performance in golf. Beyond the bounds of positive and negative thinking. International Journal of Sports Science & Coaching, 3(1_suppl), 255–269. doi:10.1260/174795408785024270

Freud, S. (1920). A general introduction to psychoanalysis. New York: Boni & Liveright.

Galland, M., North, C., & Sugar, L. A. (2001). Psychologists’ response to criticisms about research based on undergraduate participants: A developmental perspective. Canadian Psychology/ Psychologie Canadienne, 42(3), 216–225. doi:10.1037/h0086893

Grant, A. M. (2000). Personal life coaching for coaches-in-training enhances goal attainment, insight and subjective well-being: The science of happiness and life satisfaction. Journal of Personality and Social Psychology, 78(4), 334–348. doi:10.1037/17493760.2012.697184

Grant, A. M., Franklin, J., & Langford, P. (2002). The self-reflection and insight scale: A new measure of private self-consciousness. Social Behavior and Personality, 30(8), 821–836. doi:10.12244/sbpb.2002.30.8.821

Gregory, J. B., & Levy, P. E. (2015). How feedback and goals drive behavior: Control theory. Washington, DC: American Psychological Association; US.

Haga, S., Craft, P., & Corby, E.-K. (2009). Emotion regulation: Antecedents and well-being outcomes of cognitive reappraisal and expressive suppression in cross-cultural samples. Journal of Happiness Studies, 10(3), 271–291. doi:10.1007/s10902-007-9080-3

Harrington, R., & Loffredo, D. A. (2011). Insight, rumination, and self-reflection as predictors of well-being. The Journal of Psychology, 145(1), 39–57. doi:10.1080/00218444.2010.528072

Harrington, R., Loffredo, D. A., & Perz, C. A. (2014). Dispositional mindfulness as a positive predictor of psychological well-being and the role of the private self-consciousness insight factor. Personality and Individual Differences, 71, 15–18. doi:10.1016/j.paid.2014.06.050

Huhn, K. (2017). Effectiveness of a clinical reasoning course on willingness to think critically and skills of self-reflection. Journal of Physical Therapy Education, 31(4), 59–63. doi:10.1097/JTE.0000000000000007

Hyland, M. E. (1998). Motivational control theory: An integrative framework. Journal of Personality & Social Psychology, 55 (4), 642–651. doi:10.1037/0022-3514.55.4.642

Karoly, P. (1993). Mechanisms of self-regulation: A system's view. Annual Review of Psychology, 44, 22–23. doi:10.1146/annurev.ps.44.020193.000323

Keller, A., Eisen, C., & Hanss, D. (2019). Lessons learned from applications of the stage model of self-regulated behavioral change: A review. Frontiers in Psychology, 10, 1091. doi:10.3389/fpsyg.2019.01091

Kiosoglous, C., & Vidic, Z. (2017). Shedding more light on the factors that predict coaching success in rowing. Journal of Sport Behavior, 40(1), 108.

Lakota, M. (2010). Self-reflection, insight and subjective well-being: A path through rumination, mindfulness and constructive self-reflection (Unpublished thesis). School of Psychology, University of Sydney.

Leung, G. S. M., Lam, D. O. B., Chow, A. Y. M., Wong, D. F. K., Chung, C. L. P., & Chan, B. F. P. (2011). Cultivating reflexivity in social work students: A course-based experience. The Journal of Practice Teaching and Learning, 11(1), 54–74. doi:10.1921/1759511X51959

Lievens, F., de Corte, W., & Schol thrower, E. (2008). A closer look at the frame-of-reference effect in personality scale scores and validity. Journal of Applied Psychology, 93(2), 268–279. doi:10.1037/0021-9010.93.2.268

Linley, P., Malby, J., Wood, A. M., Osborne, G., & Hurling, R. (2009). Measuring happiness: The higher order factor structure of subjective and psychological well-being measures. Personality and Individual Differences, 47 (8), 878–884. doi:10.1016/j.paid.2009.07.010

Liu, L., & Liu, J. (2018). The ability and characteristic of self-reflection and insight in schizophrenia and depression patients. Chinese Journal of Behavioral Medicine and Brain Science, 27(1), 31–34.

Lyke, J. A. (2008). Insight, but not self-reflection, is related to subjective well-being. Personality and Individual Differences, 46(1), 66–70. doi:10.1016/j.paid.2008.09.010

Lyubomirsky, S., & Lepper, H. S. (1999). A measure of subjective happiness: Preliminary reliability and construct validation. Social Indicators Research, 46(2), 137–155. doi:10.1023/A:1006824100041
MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. Psychological Methods, 1(2), 130–149. doi:10.1037/1082-989X.1.2.130

Marková, I. S., & Berrios, G. E. (1992). The meaning of insight in clinical psychiatry. British Journal of Psychiatry, 160(6), 850–860. doi:10.1192/bjp.160.6.850

Marsh, S. (2001, February 1–3). Factor scores, structure coefficients, and communality coefficients: It’s all one general linear model. Paper presented at the annual meeting of the Southwest Educational Research Association. New Orleans, LA.

Nakajima, M., Takano, K., & Tanno, Y. (2017). Adaptive functions of self-focused attention: Insight and depressive and anxiety symptoms. Psychiatry Research, 249, 275–280. doi:10.1016/j.psychres.2017.01.026

Nakajima, M., Takano, K., & Tanno, Y. (2018). Contradicting effects of self-insight: Self-insight can conditionally contribute to increased depressive symptoms. Personality and Individual Differences, 120, 127–132. doi:10.1016/j.paid.2017.08.031

Nisbett, R. E., & Wilson, T. D. (1977). Telling more than we can know: Verbal reports on mental processes. Psychological Review, 84, 231–259. doi:10.1037/0033-295X.84.3.231

Oaten, M., & Cheng, K. (2007). Improvements in self-control from financial monitoring. Journal of Economic Psychology, 28(4), 487–501. doi:10.1016/j.joep.2006.11.003

Olden, C. (1943). The psychology of obstinacy. The Psychoanalytic Quarterly, 12, 240–255. doi:10.1080/21674086.1943.11925528

Peterson, R. A. (2001). On the use of college students in social science research: Insights from a second-order meta-analysis. Journal of Consumer Research, 28(3), 450–461. doi:10.1086/323732

Podsakoff, P. M., Mackenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. Journal of Applied Psychology, 88 (5), 879–903. doi:10.1037/0021-9010.88.5.879

Podsakoff, P. M., Mackenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. Annual Review of Psychology, 63(1), 539–569. doi:10.1146/annurev-psych-100710-100452

Roberts, C., & Stork, P. (2008). Readiness for self-directed change in professional behaviours: Factorial validation of the self-reflection and insight scale. Medical Education, 42(11), 1054–1063. doi:10.1111/j.1365-2923.2008.03156.x

Rogers, C. (1961). On becoming a person: A therapist’s view of psychotherapy. London: Constable.

Sauter, F., Heyne, D., Blöte, A. W., van Widenfelt, B. M., & Westenberg, P. M. (2010). Assessing therapy-relevant cognitive capacities in young people: Development and psychometric evaluation of the self-reflection and insight scale for youth. Behavioural and Cognitive Psychotherapy, 38(3), 303–317. doi:10.1017/S1352465810000020

Seligman, M. E. (1974). Depression and learned helplessness. New York, NY: John Wiley & Sons.

Silvia, P. J., & Phillips, A. G. (2011). Evaluating self-reflection and insight as self-conscious traits. Personality and Individual Differences, 50(2), 234–237. doi:10.1016/j.paid.2010.09.035

Song, M. O., & Kim, H. (2018). Validity and reliability of the self-reflection and insight scale for korean nursing students. Journal of Korean Academy of Fundamentals of Nursing, 25(1), 11–21. doi:10.7739/jkanf.2018.25.1.11

Stein, D., & Grant, A. M. (2014). Disentangling the relationships between self-reflection, insight and subjective well-being: The role of dysfunctional attitudes and core self-evaluations. The Journal of Psychology: Interdisciplinary and Applied, 148(5), 505–522. doi:10.1080/00223980.2013.810128

Sweet, A. A., & Loizeaux, A. L. (1991). Behavioral and cognitive treatment methods: A critical comparative review. Journal of Behavior Therapy and Experimental Psychiatry, 22(3), 159–185. doi:10.1016/0022-3565(91)90014-V

Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. Journal of Personality, 72, 271–322. doi:10.1111/j.1097-0223.2006.00263.x

Theobald, S., Fugger, J., & van Vianen, A. (2013). Does coaching work? A meta-analysis on the effects of coaching on individual level outcomes in an organizational context. The Journal of Positive Psychology, 9 (1), 1–18. doi:10.1080/17439760.2013.837499

Thompson, B. (2004). Experiential and confirmatory factor analysis: Understanding concepts and applications. Washington, DC: American Psychological Association.

Topolinski, S., & Reber, R. (2010). Gaining insight into the “aha”-experience. Current Directions in Psychological Science, 19(6), 402–405. doi:10.1177/0963721410368803

Trapnell, P. D., & Campbell, J. D. (1999). Private self-consciousness and the five-factor model of personality: Distinguishing rumination from reflection. Journal of Personality & Social Psychology, 76(2), 284–304. doi:10.1037/0022-3514.76.2.284

Vieira, R., Vieira, D., Gomes, W., & Gauer, G. (2010). A-levels and self-reflection in clinical psychiatry. Psychotherapy and Psychosomatics, 79(4), 199–205. doi:10.1159/000265211

Voas, K. D., & Baumsteiger, R. F. (2016). Handbook of self-regulation: Theory, research, and applications. New York: Guilford Publications.

Wang, L., Wang, K. T., Heppner, P. P., & Chuang, C. C. (2017). Cross-national cultural competency among taiwanese international students. Journal of Diversity in Higher Education, 10(3), doi:10.1037/dhe0000020

Wilson, T. D., & Schober, J. W. (1991). Thinking too much: Introspection can reduce the quality of preferences and decisions. Journal of Personality and Social Psychology, 60, 181–192. doi:10.1037/0022-3514.62.2.181

Yang, H., & Hui, T. (2015). Reliability and validity of the Chinese version of the solution-focused inventory in college students. Journal of Multicultural Counseling and Development, 43, 305–315. doi:10.1002/jmcd.201543.4.3.4

Zimmerman, B. J. (1994). Dimensions of academic self-regulation: A conceptual framework for education. In D. H. Schunk & B. J. Zimmerman (Eds.), Self-regulation of learning and performance: Issues in educational applications (pp. 3–21). Hillsdale, N.J: Erlbaum.
