Using Signature Strengths in Pursuit of Goals:

Effects on Goal Progress, Need Satisfaction, and Well-being, and Implications for

Coaching Psychologists

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Abstract

In recent years there has been a growing interest in research related to the use of strengths. Although results from past research have consistently suggested that the use of strengths is associated with higher performance and greater well-being there is, as yet, no clear theory describing how using strengths might contribute to greater well-being or goal progress. In this paper we test a repeated measures cross-sectional model in which using signature strengths is associated with goal progress, which is in turn associated with the fulfilment of psychological needs, and in turn well-being. Our results suggest that strengths use is associated with better goal progress, which is associated with psychological need fulfilment and enhanced well-being. Implications for practice and future research are discussed.

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The science of positive psychology is the study of psychological strengths and positive emotions (Snyder & Lopez, 2007). This new discipline represents a paradigm shift in professional attention from "what is wrong with people," psychologically speaking, to "what is right with people." Previous work has demonstrated many of the links between coaching psychology and positive psychology (Biswas-Diener & Dean, 2007; Linley & Harrington, 2005; Linley & Kauffman, 2008). A major focus of positive psychology research is on strengths; patterns of thought, feeling and behaviour that are energizing and which lead to maximal effectiveness (Linley, 2008a). Within the coaching psychology literature, strengths use has been shown to be associated with both subjective and psychological well-being, even when controlling for the effects of self-efficacy and self-esteem (Govindji & Linley, 2007), and strengths coaching has been suggested as one applied link between strengths and coaching psychology (Linley & Harrington, 2006).

Recent studies on strengths have examined a number of issues ranging from the emotional consequences of using strengths (Seligman, Steen, Park & Peterson, 2005) to regional differences in strengths (Park, Peterson & Seligman, 2006), including specific analysis of the VIA strengths in the UK population (Linley et al., 2007). Positive psychology is also an applied science, and increasing numbers of therapists, coaches and consultants are using strengths based interventions with their clients (see Biswas-Diener, 2009; Seligman, Rashid & Parks, 2006). As a result, there is a special responsibility for researchers to examine strengths-related outcomes and

better develop theoretical models by which strengths interventions work, especially

given the growing appetite from coaching psychologists to understand both the

pragmatic applications of strengths psychology and also its scientific underpinnings

(Linley, 2008b).

Positive psychology and strengths

In the introduction to the landmark positive psychology issue of the *American Psychologist* Seligman and Csikszentmihalyi (2000) write "Psychologists need now to call for massive research on human strengths and virtues. Practitioners need to recognize that much of the best work they already do in the consulting room is to amplify strengths rather than to repair the weaknesses of their clients." (p. 8). Two years later Seligman (2002) had identified six culturally ubiquitous virtues that included wisdom, courage, love, justice, temperance and spirituality and—under these broad categories—he proposed 24 distinct strengths ranging from creativity to leadership to humour (see also Biswas-Diener, 2005). Peterson and Seligman (2003) used this list, now known as the "VIA" (Values in Action), as the foundation of a taxonomy of strengths that they intended to be an intellectual counterpoint to the widely used *Diagnostic and Statistical Manual of Mental Disorders* (DSM; APA, 1994). Within their classification system Peterson and Seligman identified 10 criteria by which strengths are included. Ultimately, Park and Peterson (2006) created an on-line measure of strengths using the VIA taxonomy. Although other measures of strengths exist, such as the Clifton StrengthsFinder 2.0 (Rath, 2008) and the Realise2 (Linley & Biswas-Diener, 2010) the VIA Survey is the most widely used strengths assessment specifically associated with the positive psychology movement to date.

The VIA Survey has been used extensively in research on the correlates of strengths and preliminary evidence suggests that it can also be used effectively as an

intervention to promote happiness and protect against depression (Seligman, Steen, Park & Peterson, 2005). In addition, studies have revealed an association between the VIA strengths and recovery from illness (Peterson, Park & Seligman, 2006), an association between societal events and the VIA Strengths (Peterson & Seligman, 2003), and a link between the VIA strengths and occupation (Matthews, Kelly, Bailey & Peterson, 2006; Peterson, Park, Hall & Seligman, 2009).

Asking "How Strengths work" rather than "Do strengths work"

Traditionally, strengths researchers have been primarily concerned with establishing evidence that strengths use is a valuable endeavour, leading to such desirable outcomes as happiness (Govindji & Linley, 2007; Seligman, Steen, Park & Peterson, 2005) and better performance at work (Clifton & Harter, 2003). This exploratory approach makes sense for a nascent science that must be established as legitimate and worthwhile. Further, this outcome based approach is of interest to coaching psychologists, coaches, therapists, organisational consultants, and other practitioners who are interested in the positive results associated with strengths use (Lyons & Linley, 2008). Missing from this approach, however, is a crucial understanding of how, specifically, using strengths leads to well-being or other desirable outcomes.

Among the most important questions in positive psychology, and related to strengths specifically, is whether or not using our signature strengths helps us to achieve our goals and whether this, in turn, helps satisfy our psychological needs and leads to greater well-being. Little is known about the mechanisms by which strengths use might lead to psychological benefits such as enhanced well-being and goal progress. The primary goal of the current research is to examine possible ways in

which strengths use produces higher well-being and how this may enhance goal progress.

One possible answers lies in understanding the relationship between strengths and motivation. Peterson and Seligman's (2005) criteria for strengths to be included in the VIA taxonomy suggest that strengths use is largely intrinsically motivated. Criterion One, for instance, defines signature strengths as those strengths that an individual considers to be very much their own. These strengths convey a sense of ownership and authenticity in their use, an intrinsic yearning to use them and a feeling of inevitability in doing so. Hence, using one's signature strengths is considered to be concordant with one's intrinsic interests and values. In addition, using one's signature strengths is considered to serve well-being and basic psychological needs, such as competence, autonomy, and relatedness. There is, as yet, no firm theory of the processes that may explain how signature strengths contribute to these outcomes. In fact, we are unaware of any published research specifically testing the mechanisms by which using strengths leads to positive changes in well-being.

One way that signature strengths may work to promote beneficial outcomes is through their use in the pursuit of personal goals. Previous research has linked goal pursuit and progress with a range of well-being outcomes (e.g. Sheldon & Elliot, 1999; Sheldon & Houser-Marko, 2001). In this paper we specifically examine the link between strengths use and well-being, paying particular attention to the role of goal pursuit and attainment.

Previous research suggests that it is not simply goal progress or attainment that leads to well-being but, rather, the types of goals pursued and the motivation for pursuit. The Self-Concordance Model (Sheldon & Elliot, 1999) elaborates the motivational sequence of goal inception, pursuit, and attainment. In essence, people

who pursue self-concordant goals (those that are consistent with their developing interests and values) put more sustained effort into achieving those goals, and hence are more likely to attain them. Interestingly, achieving well-being, in this case, appears to be more than simply a function of goal progress. Instead, goal attainment effects on well-being are moderated by the self-concordance of goals. Sheldon and Kasser (1998), for example, found that attaining self-concordant goals leads to greater well-being than does attaining goals that are not self-concordant. Sheldon and Kasser suggest that concordant goal attainment leads to need satisfaction which, in turn, mediates changes in well-being. Sheldon and Elliot (1999) tested this hypothesis, and found that need satisfaction partially mediated concordant goal attainment effects on well-being: part, but not all, of the change in well-being could be accounted for by need-satisfying experiences.

Building on the Sheldon and Elliot (1999) and Sheldon and Kasser (1998) studies, together with work demonstrating the effect of coaching on self-concordance of goals (Burke & Linley, 2007), we hypothesised that using one's signature strengths (i.e. acting self-concordantly) will contribute to goal progress, leading to need-satisfying experiences and greater well-being.

The link between strengths and well-being is especially important because it is possible that well-being, as a cognitive and affective legacy of self-concordant motivation and goal pursuit, provides motivational reinforcement. Therefore, for managers, coaching psychologists, coaches, organisational consultants, educators and others interested in facilitating high performance a better understanding of the mechanisms by which strengths use leads to goal attainment and well-being may offer insight into learning, growth and motivation.

Method

Participants

The participants in the current research were 240 second year college students at a major university in the Midlands of England. There were 49 males and 191 females with a mean age of 19.95 years (SD = 2.54 years). Participants were primarily white (78.8%) or Indian (8.8%), and predominately "single / never married" (91.7%).

Measures

VIA Inventory of Strengths (VIA-IS; Peterson & Seligman, 2004). The VIA-IS measures 24 character strengths by means of a 240-item self-report questionnaire (10 items per strength). All subscales have been found to have acceptable internal consistency reliabilities (all > .70; Peterson, Park, & Seligman, 2005). The measure is typically administered online, although for the present study we used a paper-and-pencil version. Responses were scored by the researchers and participants were notified with details of their top five "signature strengths," together with a description of these strengths. It was these top five signature strengths that were later used to rate strengths use in general and in relation to participants' top three goals.

Positive and Negative Affect Scales (PANAS; Watson, Tellegen, & Clark, 1988). The PANAS is a widely used 20-item measure of positive affect (10 items, e.g., "interested," "attentive") and negative affect (10 items, e.g., "irritable," "jittery"). Participants were asked to respond in relation to the extent "you generally feel this way." The PANAS is one of the most widely used measures of positive and negative affect, and is scored using a 1 ("very slightly or not at all") through 5 ("extremely") fully anchored Likert scale, thus giving a potential range of 10 through 50 for each of

positive affect and negative affect. Internal consistency reliability was $\alpha = .82$ for the positive affect scale and $\alpha = .84$ for the negative affect scale.

Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). The SWLS is a five item measure of life satisfaction, which is considered to be the cognitive evaluation dimension of happiness. It is the most widely used measure of life satisfaction, and has excellent internal consistency, a single factor structure, and temporal stability ($r = .54$ over 4 years), while still being highly responsive to the effect of psychological therapies (Pavot & Diener, 1993). It is scored using a 1 (strongly disagree) to 7 (strongly agree) fully anchored Likert scale, giving a potential range of 5 - 35. Internal consistency reliability was $\alpha = .81$.

Semester Goals. Participants were asked to think about, and then write down, the "top three goals" they held for the semester (a three month timeframe). Goals were explicitly defined as "projects that we think about, plan for, carry out, and sometimes (though not always) complete or succeed at." Participants were instructed to think carefully about their top three goals, and told that they should accurately represent their main aspirations for the semester. Examples of possible goals were given, including "*Attend most of my lectures*," "*Make the university football team*," "*Have fun and enjoy myself*," and "*Stop drinking alcohol during the week*," although participants were informed clearly that they should record the three goals that represented their own aspirations. They were instructed to write down the three goals on a sheet headed "My TOP THREE GOALS," and to retain a copy of the three goals with their course materials for future reference. A copy of their goals record was also submitted to the researchers.

Basic Psychological Need Satisfaction Scales (BPNSS; Deci & Ryan, 2000). The BPNSS is a 21-item measure of need satisfaction for the three basic

psychological needs of autonomy (seven items, three reverse scored, e.g., *"I feel like I am free to decide for myself how to live my life"*), competence (six items, three reverse scored, e.g., *"Most days I feel a sense of accomplishment from what I do"*), and relatedness (eight items, three reverse scored, e.g., *"People in my life care about me"*). It is scored using a 1 (not at all true) through 7 (very true) Likert scale. Principal components analysis of the three need satisfaction scales showed them to load between .81 and .86 on a single component, eigenvalue = 2.11, that accounted for 70.33% of the variance. Hence, for the present study a composite need satisfaction variable was created by aggregating the three need satisfaction scores. Internal consistency reliability for the composite scale was α = .86.

General Strengths Use. To assess the extent to which participants were using each of their five signature strengths in their life in general, they responded to the question *"How much have you used each of your signature strengths in your life in general so far this semester?"* Specifically, participants gave five responses, one for how much they were using each of their signature strengths in their life in general. These were scored using a 0 (not at all) to 4 (very much) five-point Likert format scale, such that a higher score indicates greater use of that signature strength in the participant's life in general. Principal components analyses of these items showed them all to load on a single factor (see Table 1). We then calculated composite scores for "General Strengths Use" by summing the responses for each of the five signature strengths, thus giving an overall potential range of 0 through 20. These composite scores are used in the analyses reported below.

Goals-Strengths Use. To assess the extent to which participants were using each of their five signature strengths in the pursuit of each of the three goals they identified at baseline, they responded to the question *"How much have you used each*

of your signature strengths in working towards the first [second / third] goal you

identified for this semester?" for each goal. Specifically, they gave five responses, one

for each signature strength, in relation to their first, second, and third goals. These

were scored using a 0 (not at all) to 4 (very much) five-point Likert format scale, such

that a higher score indicates greater use of that signature strength in working towards

the specified goal. Principal components analyses of these items showed them all to

load on a single factor (see Table 1). We then calculated aggregate scores for goals-

strengths use for each of the three goals individually, by summing the responses for

each of the five signature strengths for each goal, thus giving an overall potential

range of 0 through 20 for each goal, that is, the extent to which participants used their

five signature strengths in pursuit of their three goals.

Principal components analysis of these three goals-strengths use scores

showed them all to load .76 - .84 on a single component, eigenvalue = 1.95,

explaining 65.05% of the variance at Time 1, and to load .80 - .86 on a single

component, eigenvalue = 2.08, explaining 69.37% of the variance at Time 2. Given

that the goal contents of the first, second, and third goals varied across participants,

we created a composite goals-strengths use variable by aggregating the responses for

strengths use for each of the first, second, and third goals. This composite goals-

strengths use variable therefore provides the equivalent of the mean strengths use in

relation to a generic set of goals, that is, it represents the extent to which participants

used their strengths (any and all of their five signature strengths) in pursuit of their

goals (any and all of their top three goals). It was this composite goals-strengths use

variable (a composite of five strengths rated in relation to three goals, giving 15

individual data points) that was used in the analyses reported below.

STRENGTHS AND GOALS

General Progress. To assess the progress that participants were making in their lives in general, they were asked "*How well are you doing in your life in general this semester*?" This single item measure was scored on a 1 (not at all well) to 7 (very well) Likert format scale, and followed the section containing the general strengths use items.

Goal Progress. To assess the progress that participants were making in their pursuit of each of their three goals, they were asked "*How well are you doing in achieving the first [second / third] goal you identified?*" This single item measure was scored on a 1 (not at all well) to 7 (very well) Likert format scale in relation to each of the three goals, and was presented at the end of each section containing the goals strengths use items for each of the three goals.

Procedure

Participants were recruited as part of a compulsory practical module that comprised part of their undergraduate course. Alternative options were provided if participants did not wish to participate in the study. In the first class, at the beginning of the semester, participants completed the baseline measures by paper-and-pencil including the VIA Inventory of Strengths, the PANAS, and the Satisfaction with Life Scale. Additionally, participants recorded their top three goals for the semester. After six weeks from baseline (Time 1), participants again completed the PANAS and the Satisfaction with Life Scale. In addition, they completed the Basic Psychological Need Satisfaction Scales, and the measures of general strengths use and goal-strengths use, together with the items assessing general progress and goals progress. These measures were again completed after 10 weeks from baseline (Time 2).

Analyses and Results

In order to simplify the number of variables for the analyses, we created a composite measure of goals-strengths use as described above, a composite measure of need satisfaction as described above, and a composite measure of subjective well-being. Principal components analysis of the positive affect, negative affect, and life satisfaction scores showed them to load from -.72 to .76 on a single component, eigenvalue = 1.66, which explained 55.33% of the variance. As such, we calculated a composite subjective well-being (SWB) variable by summing life satisfaction and positive affect, and subtracting negative affect.

We tested our hypothesized model using structural equation modelling (SEM; LISREL 8.7, Jöreskog & Sörbom, 1999). In this model (see Figure 1) we tested the stability of our measures (van Dierendonck, Haynes, Borril & Stride, 2004) by including paths from strengths at time 1 to strengths at time 2, from progress at time 1 to progress at time 2, from need satisfaction at time 1 to need satisfaction at time 2, and finally, from well-being at time 1 to well-being at time 2. We included a path from strengths to progress, from progress to need satisfaction and from need satisfaction to well-being to test for our hypotheses. We included these paths at both time 1 and time 2, in order to test these pathways cross-sectionally at both time points. We also tested the hypothesized direct effect of progress on well-being found in previous research by including direct paths from progress at time 1 to well-being at time 1 and from progress at time 2 to well-being at time 2. The acceptable levels of fit used to assess the adequacy of each model were according to the recommendations made by Hu and Bentler (1999): the Standardized Root Mean Residual (SRMR) should be below .09 and the Comparative Fit Index (CFI) above .95.

Insert Figure 1 about here

Our hypothesised pathway was examined in model 1. The hypothesized model presented an acceptable fit to the data. SRMR was .077 below the recommended .09 and CFI = .97 was above the recommended .95. Inspection of the parameters estimates revealed that all paths were significant. The final model is presented in Figure 2. As can be seen in Figure 2, a large percentage of the variance in well-being (63% and 64%) could be explained by strengths use, goal progress and need satisfaction.

Insert Figure 2 about here

The model demonstrates that signature strengths use is associated with higher goal progress, which is in turn associated with greater need satisfaction, which in turn are both associated with higher levels of well-being and explain a large proportion of the variance in well-being.

Discussion

Although past research has linked goal progress and attainment, especially that which is self-concordant, to well-being, there has not been empirical research aimed at explaining the path from strengths use to well-being. In the current study we were able to use a repeated-measures cross-sectional design to follow individuals as they used personal strengths to pursue meaningful personally relevant goals. Our analyses revealed that strengths use was associated with goal progress, which in turn was associated with both need satisfaction and well-being at both 6 weeks and 10 weeks

post- baseline. When we modelled the data to examine the relative and absolute fit of the data we found that strengths use affects well-being both through goal progress and through the psychological need fulfilment associated with goal progress. That is, to the extent that individuals make progress toward personally relevant goals and to the extent that this goal progress feels concordant with self-growth and autonomy, people will predictably feel more positive affect, less negative affect, and greater life satisfaction.

Our findings support and extend earlier research by Sheldon and Elliot (1999) and Sheldon and Kasser (1998) showing that goals that are self-concordant—those that are personally valued and associated with growth, connectedness and autonomy—are specifically associated with greater well-being. Sheldon and Elliot suggest that factors such as *controlledness* (locus of control), personal ownership of a goal, perseverance and personal interest are all factors in both goal progress and well-being. Our findings indicate that strengths use offers an interesting and reliable avenue for pursuing self-concordant goals. Given that strengths are, by definition, associated with personal values and the expression of an integrated psychological core, they are likely to suggest a self-concordant approach to goals and, therefore, to maximise the chances for greater well-being and goal attainment.

Importantly, it appears as if the well-being that results from goal progress and psychological need fulfilment may act as a cognitive and affective reinforcer, leading to greater goal progress later on. To the extent that this is true, it suggests that strengths use might be an important part of an affective learning loop in which progress leads to well-being which, in turn, motivates sustained effort and leads to further goal progress. This point is especially important for coaching psychologists, coaches, therapists and others who work with clients on personal change or optimal

performance. Understanding that employing strengths in the pursuit of goals is more likely to lead to an upward spiral of success and well-being establishes strengths as a particularly important area for intervention and support.

Future research could be improve on the current study in several ways. First, our sample included college students that were, in many ways (e.g. age and marital status) non-diverse. Therefore, caution must be taken in generalising these results to the wider population. This cautionary note is especially important in terms of generalising the current findings across cultures, as goals are differentially associated with well-being across cultural groups (Oishi, 2000). In addition, our use of composite scores for strengths use means that we cannot be certain that this model holds true for all strengths equally, or whether it is more appropriate to a blend of primary strengths. In all likelihood, individuals rotate through a number of primary strengths and/or use constellations of strengths in tandem. Unfortunately, our current methodology does not allow us to look specifically at how strength type affects goal progress or well-being. Finally, our repeated measures cross-sectional design does not allow for the test of pure longitudinal effects, and this is an important area for future research.

This study is the first of which we are aware to explore the relation between strengths use, goal progress, and well-being. Although we found direct evidence of a links between these variables, both across measures and repeated across time, further study is needed to better understand this complex psychological relationship. We recommend that future researchers interested in this topic examine strengths use in specific, non-student contexts such as organizational (e.g., Linley, Woolston, & Biswas-Diener, 2009) or therapeutic (e.g., Linley, 2008c) settings. In particular, we recommend that future researchers include third-party performance ratings as well as

other measures of well-being such as surveys of meaning in life or psychological well-being. It would also be beneficial for future researchers to examine the relation between strengths use and obligatory goals (i.e., non self-concordant goals) as well as strengths use during times of goal failure.

In the end, it is noteworthy that not all goal progress is associated with well-being. Self-concordant goals are a special case of enhanced well-being. The use of personal strengths appears to be inherently self-concordant and, as a result, leads to better goal progress and greater feelings of well-being, thereby providing a solid empirical base to support practitioners across many fields who are using strengths approaches in their work.

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Table 1. *Principal Components Analyses of Strengths Use Responses for General Use and Specific Goal Use.*

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Time 1	Factor loadings	Eigenvalue	Variance explained (%)
General	.48 - .66	1.77	35.38
Goal 1	.70 - .73	2.54	50.81
Goal 2	.70 - .77	2.65	52.91
Goal 3	.74 - .80	2.92	58.43
Time 2	Factor loadings	Eigenvalue	Variance explained (%)
General	.65 - .76	2.33	46.56
Goal 1	.71 - .79	2.73	54.67
Goal 2	.72 - .80	3.00	60.04
Goal 3	.75 - .84	3.10	61.95

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Note. General = Strengths use in one's life in general; Goal 1 [2, 3] = Strengths use in pursuit of goal 1 [2, 3]. Time 1 was 6 weeks after baseline; Time 2 was 10 weeks after baseline. All items loaded on a single component.

Figure 1. *Hypothesized Model showing Strengths Use, Goal Progress, Need Satisfaction and Well-being.*
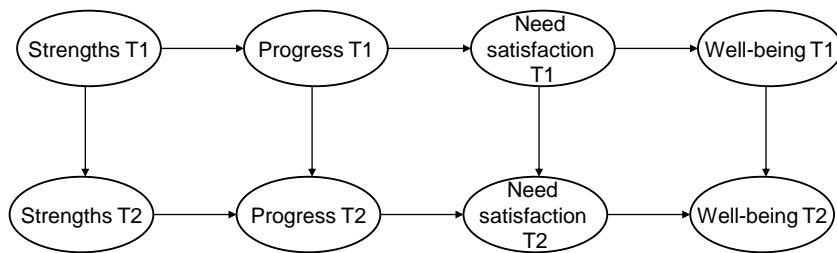

Figure 2. *Final Model showing Strengths Use, Goal Progress, Need Satisfaction and Well-being.*