

Relationships between valued action and well-being across the transition from high school to early adulthood

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Well-being promotes positive outcomes, which may include the ability to live according to one's values, and values-congruent living may be a source of well-being. The current longitudinal study tested bi-directional relationships between subjective well-being and the extent to which values are seen as personally important, pressured by others, activated and successfully enacted. Participants were 468 young people (51.9% female) who responded to questionnaires in the final year of high school (Grade 12) and again approximately one year later. Regression analyses showed that life satisfaction predicted increasing value importance, activity and successful enactment. Valued action did not predict later well-being, when baseline levels of well-being were controlled. Positive changes in well-being over time were correlated with increased value importance, decreased pressure and greater success in enacting values. The findings build on a small body of research exploring the reciprocal interaction of well-being and valued action, and have implications for interventions.

Keywords: values; well-being; adolescence; ACT; broaden-and-build; self-determination

Valued action is goal pursuit that is meaningful, vital and connected to valued directions (Dahl, Plumb, Stewart, & Lundgren, 2009). This type of goal pursuit has been proposed by theorists in the positive psychology movement as the key to sustainable happiness (Lyubomirsky, Sheldon, & Schkade, 2005). Promoting valued action is a central purpose of Acceptance and Commitment Therapy (ACT; Hayes, Follette, & Linehan, 2004). Acting upon one's values is seen as worthwhile in its own right, and happiness as a welcome by-product (Wilson & Murrell, 2004; Wilson, Sandoz, Kitchens, & Roberts, 2010). Both ACT and positive psychology perspectives are consistent with the long-established view that well-being is linked inextricably with values; that true happiness (eudaimonia) comes not from the mere pursuit of pleasure, but from living in accordance with principles that create a sense of meaning, connection and self (Compton, 2001; Ryan, Huta, & Deci, 2008). Integrating the two perspectives has the potential to advance their common goal: promoting human flourishing (Ciarrochi, Kashdan, & Harris, 2013). ACT and positive psychology are similar in that they don't assume that people are 'broken' or have something wrong with them that needs fixing. Instead, the approaches focus on helping people to move towards something positive. ACT calls the positive outcome, 'valued action'. Positive psychology also promotes valued action, along with other,

related states such as meaning in life, positive affect, flow and life satisfaction.

The purpose of this study was to examine longitudinal and potentially reciprocal relationships between values and subjective well-being (SWB) in a diverse group of young people at the transition from high school to adult life. Specifically, we investigated the extent to which valued living promotes well-being, as assumed in ACT (Wilson et al., 2010), and the extent to which well-being promotes valued living, as suggested by the broaden-and-build perspective (Fredrickson, 2001; Sheldon, 2008). Values and valued action are closely connected with emotions and well-being (Diener, 1984; Feather, 1995; Schwartz, 2010). The current study addresses the relatively neglected issue of whether high levels of valuing overall – regardless of value contents – are associated with enhanced well-being. We also ask whether it is necessary to act on one's values, and whether social pressure reduces the potential benefits of valued action. Finally, we explore whether well-being could be antecedent to values (Emmons, 1986; Fredrickson, 2001; Sheldon, 2008). Is it possible that happier people have more important values and are better able to put them into play in their lives? These are issues of practical and theoretical importance for ACT. Moreover, this study addresses the question, recently raised in positive psychology, of whether values could drive a

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cycle of meaningful goal pursuit and lasting happiness (Sheldon, 2008).

Early adulthood is characterised by many major transitions (Shulman & Nurmi, 2010). We focused on the first of these: leaving high school. At this time – generally around 18 years of age – most young Australians have learned to drive, are legally able to marry and vote, and are making important choices regarding their future lives. Goal selection and pursuit are among the key activities that shape decision-making, relationships and identity during this critical period of development (Shulman & Nurmi, 2010).

Values and valued action

Values are abstract, verbal constructs that can be enacted by directing the selection and pursuit of goals (Feather, 1995; Plumb, Stewart, Dahl, & Lundgren, 2009; Rohan, 2000; Wilson et al., 2010). Goals are concrete, specific and achievable (e.g. ‘Attend my son’s concert at school this Monday’), whereas values are broad guiding principles (e.g. ‘Be a good father’). Valued action is successful enactment of values in daily life. Although we refer to it below as ‘success’, this is not meant to imply it is an end point, as values can never be fully attained. All values are, by definition, seen as desirable by most people, although priorities differ among people and within the same individual over time (Cohen & Cohen, 2001; Feather, 1995; Rohan, 2000; Schwartz, 1992). Actions congruent with deeply held values are closely tied to self-concept and to emotions (Schwartz, 2010). In clinical interventions such as ACT, therapeutic exercises target events that impede valued action, while behavioural activation is aimed at increasing enactment of important values (Wilson & Murrell, 2004). As well as providing direction for therapy, values provide motivation, giving meaning to the suffering encountered during treatment, provided that the client has selected his or her values freely and has little sense of coercion (Wilson & Murrell, 2004). Clients who perceive strong social pressure on their values may be less motivated to engage in the therapeutic process, and may benefit less from valued action, than those who perceive little pressure.

We assessed four dimensions of values: importance, pressure, activity and successful enactment. Research on values has traditionally focused on the dimensions of importance and successful enactment (or attainment of valued goals). However, a number of studies have highlighted the role of perceived external control in undermining effort and success in goal pursuit (Sheldon & Elliot, 1998) and reducing well-being following goal attainment (Sheldon & Houser-Marko, 2001; Sheldon & Kasser, 1998). Controlled motivation is defined ‘a feeling of pressure to think, feel or behave in specific ways’ (Sheldon, Ryan, Deci, & Kasser, 2004, p. 475).

Therefore, we assessed the extent to which survey respondents felt pressured regarding their values. We also asked respondents whether they had attempted to put a range of values into play. Acting upon one’s values and striving towards valued goals is likely to enhance well-being (Diener, 1984).

Well-being as a consequence of valued action

Importance of values

Having many important values may be satisfying in itself. People who placed high importance on their personal strivings had high life satisfaction, regardless of past success in attaining their goals (Emmons, 1986). However, research using the Schwartz Values Survey (SVS; Schwartz, 1992) has shown only a small and inconsistent relationship between value importance and well-being. Some values correlated positively and weakly with the affective, but not the cognitive, components of SWB, while others had no relationship with well-being (Sagiv & Schwartz, 2000).

Having few important values may reflect previous experiences of failure resulting in disengagement from goals. In clinical work, clients who report low mean importance for their values overall may believe that successful enactment of their values is impossible (Wilson & Murrell, 2004). Alternatively, people may genuinely have difficulty identifying what is important to them due to an early learning history in which valued directions were associated with pain or punishment (Dahl et al., 2009). A chronic, ongoing search for meaning in life is associated with reduced well-being (Steger, Sheline, Merriman, & Kashdan, 2013). Very high mean scores for importance may also be problematic, however, indicating excessive concerns about social desirability and a fear of disapproval (Schwartz, Verkasalo, Antonovsky, & Sagiv, 1997; Wilson & Murrell, 2004). People who ‘overvalue’ conformity and approval may experience conflict with other important goals. Their lives may be directed, not by personal values, but by social pressures and norms (Lönnqvist, Leikas, Paunonen, Nissinen, & Verkasalo, 2006; Wilson & Murrell, 2004). An excessive concern for proving one’s own worth and likeability may also make an individual vulnerable to diminished well-being when setbacks in goal pursuit are encountered (Massey, Gebhardt, & Garnefski, 2008). It remains unclear, therefore, whether it is better for young people at the transition from high school to place importance on a wide range of personal values or to be more selective.

Values-driven activity

Although value importance is generally measured by rating scales, there is another way to consider this construct: a value is important to an individual if they

have at least tried to put it into practice in their life. The Survey of Guiding Principles (SGP) includes a dichotomous measure of values activity (activated vs. not activated) which can be summed to create a count variable. To our knowledge, no one has previously used a count of activated values as a measure of importance. It is therefore unknown whether high levels of values-driven activity are beneficial or detrimental to well-being. It may be that greater engagement with values enhances positive emotion and life satisfaction. Among emerging adults at the transition from high school, engaging with career goals was beneficial for well-being, even when the goals were not attained (Haase, Heckhausen, & Köller, 2008). In that longitudinal study goal engagement was defined as a combination of behavioural effort and volitional strategies aimed at particular goals, rather than as a total count of activated values. Alternatively, pursuit of many goals may result in values conflict and fatigue. Young adults who pursued intimate partnership and career goals simultaneously had high levels of psychopathology symptoms, compared with those who pursued these goals sequentially (Skaletz & Seiffge-Krenke, 2010).

Further, the relationship between successful enactment and well-being may be influenced by how many values one attempts to put into play simultaneously. Devoting time and energy to relatively unimportant values may lead to resentment, burnout and feelings of meaninglessness (Dahl et al., 2009). Given the lack of previous studies, it is difficult to state specific hypotheses in relation to this novel measure of value importance, but the current study will include exploratory analyses of associations between values activity and well-being.

Successful enactment of values

Valued action may result in contact with specific reinforcing consequences, or with the likelihood of future positive consequences (Dahl et al., 2009). For example, successfully enacting one's universalism values by volunteering may lead to enjoyable interactions with other volunteers and appreciation from those being helped. Thus, a key focus for therapies like ACT is on enabling clients not just to identify their most deeply held values, but to succeed in enacting values in their lives. Clinical experience has shown that a large discrepancy between the importance a person places on values, and the extent to which values are successfully enacted, is a source of sadness, anxiety, guilt and negative self-evaluation (Wilson & Murrell, 2004). A recent review found that success in pursuing valued goals may protect adolescents from depression (Massey et al., 2008). Two longitudinal studies demonstrated links between goal attainment and well-being, although the relationship held only for

'intrinsic' goals (Niemiec, Ryan, & Deci, 2009; Sheldon & Kasser, 1998). One positive psychology intervention study sought to improve SWB by encouraging valued action (Sheldon et al., 2010). Proximal, but not distal, measures of progress towards self-selected goals predicted well-being, controlling for earlier well-being. This supported the authors' hypothesis that 'continual, successful effort is required for people to maintain themselves in the upper end of their own "set range"' (Sheldon et al., 2010, p. 46).

Perceived social pressure

In childhood and adolescence, values may be established via socially mediated control over consequences (Hayes, Gifford, & Hayes, 1998). Desired behaviours, such as sharing and helping, are established using praise and punishment; later, young people internalise values by experiencing and understanding long-term and abstract consequences of their actions. Nevertheless, even in adulthood, values may be subject to aversive control (Plumb et al., 2009). For example, a person may drive within the speed limit both because they value safety and because they want to avoid having to pay a fine. It is important, however, that values are not dominated by aversive control, but that they facilitate ongoing behaviours that are intrinsically reinforcing; in this way, they are more likely to be maintained (Plumb et al., 2009) and less likely to be a source of distress (Zettle, 2007). Excessive pressure and external control can prevent internalisation, making it less likely that young people will adopt and act upon their values and more likely that they will be driven by a need for conformity and security. For example, controlling parenting practices described by mothers in interviews when their children were five years old predicted those children's conformity and security values at age 31 (Kasser, Koestner, & Lekes, 2002).

Well-being as an antecedent of valued action

Well-being can also be viewed as a resource that promotes positive outcomes, as in the broaden-and-build theory of well-being (Lyubomirsky, King, & Diener, 2005). The experience of positive emotions helps create opportunities for approach and exploration, whereas negativity leads to avoidance and limited behavioural repertoires (Fredrickson & Losada, 2005). Over time, positivity builds durable personal resources such as resilience, knowledge and social connections (Fredrickson & Losada, 2005). Experiments have shown that induced positive emotions broaden the range of actions that individuals can generate in response to environmental stimuli (Fredrickson, 2001). If the broaden-and-build theory applies to valued action, it suggests that well-being could both lead to, and result from, successful enactment of

values, by promoting generativity and an upward spiral of improved happiness and life satisfaction (Fredrickson, 2001).

Emmons (1986) observed that unhappy people had lower expectations of attaining goals, even when they had been successful previously. Happy people may be more active in pursuing goals and therefore more likely to succeed (and to deal with disappointment); thus, the 'causal flow' from value importance and enactment to well-being may be reversed (Emmons, 1986, p. 1066). Three longitudinal studies of emerging adults have found bi-directional relationships between goals and well-being. Among undergraduate students, mentioning family and/or achievement goals in a list of personal projects predicted increased self-esteem two years later, as did increasing interest in these goals (Salmelo-Aro & Nurmi, 1997). However, initial (low) depression also predicted increasing interest in achievement, while initial (high) self-esteem predicted increasing interest in family goals. These findings suggested SWB may influence goal construction, and vice versa (Salmelo-Aro & Nurmi, 1997). Similar findings emerged from a large-scale longitudinal study of senior high school students who were followed into their late 20s (Messersmith & Schulenberg, 2010). Attainment of education and marriage goals was related to later well-being. In addition, those who had higher life satisfaction at age 18 were more likely to marry, suggesting that their higher well-being increased their chances of achieving their romantic relationship goals. Both studies examined a restricted range of goals, primarily relationship and career.

Sheldon (2008) proposed that valued action could be a source of lasting happiness. To test this hypothesis, he collected additional data to extend an earlier study in which first-year college students were asked to generate personal goals for the semester (Sheldon & Houser-Marko, 2001). Initial high well-being predicted success in goal pursuit, which in turn predicted enhanced well-being in the final year of college. Sheldon (2008) used an idiographic technique to measure goals, resulting in a measure of goal attainment with low internal consistency ($\alpha = 0.56$). Nevertheless, combined with the previous longitudinal findings, this study suggests that the relationship between values and well-being may be bi-directional. The current study will test this hypothesis at a critical period in the development of values.

The current study

Longitudinal relationships between value importance, values-driven activity, successful enactment, social pressure and SWB were investigated over an 18-month period with a sample of high school students at the transition to emerging adulthood. Our values measure was the SGP (Ciarrochi & Bailey, 2008; Veage, Ciarrochi, & Heaven,

2011). We would expect that high levels of valuing overall, including greater average importance, activity and success and lower pressure, will be correlated with greater well-being both concurrently and longitudinally (Hypothesis 1). Increasing importance, activity and success and decreasing pressure across all values contents will be associated with increasing well-being (Hypothesis 2). High levels of value importance, activity and success and low pressure across all contents in Grade 12 will predict post-school well-being, controlling for Grade 12 well-being (Hypothesis 3).

The relationship between values and well-being is assumed in ACT to be an ongoing and reciprocal one. Individuals who are highly distressed and inflexible often find it difficult to identify their important values, or to take action towards those values, even though doing so might help alleviate their distress. Recent theoretical and empirical work in positive psychology indicates that positive emotions and life satisfaction may facilitate valued action, which in turn will promote further well-being. These perspectives suggest that well-being may be antecedent to the development of values. Specifically, high levels of well-being in Grade 12 will predict high value importance, activity and success and low pressure post-school, controlling for baseline values (Hypothesis 4).

We conducted additional analyses exploring the role of values-driven activity. To our knowledge, this is the first study to measure total values-driven activity using a count of values that a person is striving towards. The current study explored whether this new measure is correlated with well-being, and whether the relationship between success and well-being changes depending on the level of activity (that is, whether activity moderates this relationship).

Method

Participants

Participants were young people who had completed their final year of secondary schooling at five Catholic high schools in New South Wales, Australia. The entire cohort (i.e. all students at one Grade level) had been part of a longitudinal study of adolescent development and well-being (e.g. Ciarrochi, Heaven, & Davies, 2007; Heaven & Ciarrochi, 2007). After completing the final school-based questionnaire, which included the baseline (Grade 12) assessment of well-being for the current study, they were invited to provide an email address at which they could be contacted for future studies. Participation was voluntary and not all students provided valid contact information. Of the 468 (51.9% female, mean age 17.0 years, SD 0.4) Grade 12 students, 337 (response rate 72.0%) responded to one or both of the subsequent online survey requests. A total of 271 young people (48.3% female) completed the first online survey, which consisted of the baseline (Grade

12) measure of values. A second invitation was sent out approximately one year later, resulting in 291 (55.0% female) responses for the second wave, of whom 225 (83%) had also completed the first wave. This survey included the post-school measures of well-being and values. Attrition from the first to the second wave was largely due to inability to contact participants who had changed address and email; there were only two refusals. We used independent group *t*-tests to check for differences in initial well-being (Grade 12) between completers and non-completers. There were no differences in initial well-being between those who completed the first online survey and those who did not, or between those who completed the second online survey and those who did not. For positive affect: first online completers, 3.86 (0.87), non-completers, 3.92, (0.86), $t(466) = -0.790$, $p > 0.05$; second online completers, 3.90 (0.86), non-completers, 3.90 (0.91), $t(466) = -0.04$, $p > 0.05$. For negative affect: first online completers, 2.19 (0.84), non-completers, 2.06 (0.79), $t(466) = -0.069$, $p > 0.05$; second online completers, 2.18 (0.82), non-completers, 2.06 (0.80), $t(466) = 1.55$, $p > 0.05$. For life satisfaction: first online completers, 4.84 (1.35), non-completers, 4.88 (1.29), $t(464) = -0.363$, $p > 0.05$; second online completers, 4.81 (1.33), non-completers, 4.91 (1.31), $t(464) = -0.79$, $p > 0.05$.

Catholic schools were chosen because the local Diocese supported the broader longitudinal study, which focused on positive development. One in five Australian children attends a Catholic school (Australian Bureau of Statistics, 2012). The Diocese in which the schools were located covers a wide geographical area including a regional city, smaller coastal towns and farming areas, and the outskirts of Sydney. Participants had a variety of ethnic and socio-economic backgrounds and resembled the broader Australian population on demographic characteristics such as fathers' occupations, English as a second language, and percentage of intact families (see Heaven & Ciarrochi, 2007, 2008).

Demographic information was collected in the second online survey. Of these 291 participants, 270 (78.9%) lived with one or both parents. Participants' employment status categories (not mutually exclusive) were: 43 (12.5%) employed full-time, 129 (37.6%) employed part-time, 39 (11.4%) looking for work, 46 (13.4%) in vocational training, and 191 (55.7%) studying at university.

Procedure

There were three measurement occasions. Baseline well-being data were collected during Grade 12 (mid-year) via a questionnaire booklet administered to students during class time while supervised by researchers and teachers. Baseline values data were collected at the end of Grade 12 (after final exams) via an online survey. A second online survey was conducted approximately one

year later, to collect both values and well-being data. Questionnaires and study methods were approved by the university human research ethics committee, and the school-based study was also approved by the Catholic Schools Authority.

Measures

Values and abstract goals

The SGP (Ciarrochi & Bailey, 2008) measures importance, activity, pressure and success for each of 54 values. Items were created to cover the 10 dimensions of the SVS (Schwartz, 1992): Universalism, Benevolence, Tradition, Conformity, Security, Power, Achievement, Hedonism, Stimulation, and Self-Direction. The structure and content of the SVS has been validated in large, international studies (e.g. Schwartz & Bardi, 2001; Schwartz & Bilsky, 1987; Schwartz & Boehnke, 2004). The SGP also incorporates values domains not covered by the SVS but highlighted by other researchers, such as physical health and spirituality (Braithwaite & Law, 1985) and work (Rottinghaus, Coon, Gaffey, & Zytowski, 2007; Savickas, Taber, & Spokane, 2002). Examples of items are, 'Having genuine, close friends' (Relationship), 'Having authority, being in charge' (Power), 'Being curious, discovering new things' (Self Direction), and 'Being safe from danger' (Security).

Participants were asked to rate the extent to which each item was personally important to them, on a scale from 1 (*unimportant to me*) to 9 (*extremely important to me*). After rating all 54 items for importance, each item was rated again for perceived pressure, on a scale from 1 (*I feel no pressure*) to 9 (*I feel extreme pressure*). The prompt read, 'Using the following scale, indicate the extent that you feel pressured to hold each of the following life principles'. Examples were given of common sources of pressure (e.g. friends, family, the media and society in general). Participants were then asked whether they had tried to put each value into play during the past three months (yes/no) giving a count of activated values (activity). For each affirmative response, they were asked how successful they felt they had been at living according to that value (success), on a scale from 1 (*not at all successful*) to 5 (*highly successful*). Scores for importance, pressure and success were averaged across all items and used in analyses, along with the count of activated values.

In the current study, three items were excluded to avoid confounding with well-being measures. These were: 'enjoying positive mood states', 'feeling good about myself', and 'leading a stress-free life'. Mean values scores were based on the remaining 51 items. Internal consistency of the scales was very high: importance Grade 12 $\alpha = 0.95$, post-school $\alpha = 0.94$; pressure Grade 12 $\alpha = 0.98$, post-school $\alpha = 0.98$; success Grade 12 $\alpha = 0.96$, post-

school $\alpha = 0.96$. As alpha is a direct function of the number of scale items, and the SGP has 51 items, average inter-item correlations were also examined for importance (as this is generally considered multi-dimensional; Schwartz, 1992; Schwartz & Boehnke, 2004). Average inter-item correlations for importance were modest (around 0.50) suggesting that a single construct, 'overall importance', accounted for about a quarter of the variance in the typical item, with the remainder presumably attributable to error and sub-scales (i.e. different values contents; see Veage et al., 2011 for validation of the sub-scales).

Subjective well-being

High levels of SWB are generally defined by the presence of positive affect and absence of negative affect (the affective component) and global life satisfaction (the cognitive component; Diener, 1984). The current study used the joviality, sadness, fear and hostility scales of the *PANAS-X* (Watson & Clark, 1994) for the affective component, and the *Satisfaction with Life Scale* (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) for the cognitive component. These instruments have been well validated and are the most widely employed measures of SWB (Linley, Maltby, Wood, Osborne, & Hurling, 2009). Both have been used with young people. Negative and positive affect and life satisfaction have different relationships with values (Emmons, 1986; Sagiv & Schwartz, 2000) and different trajectories of change over time (Sheldon & Kasser, 2001) so the scales were used separately rather than creating a composite score.

The *PANAS-X* (Watson & Clark, 1994) consists of a list of adjectives describing mood states (e.g. cheerful, downhearted, scared and irritable). Participants indicated the extent to which they had experienced these moods in the past month, on a scale from 1 (*very slightly or not at all*) to 5 (*extremely*). The joviality scale (7 items) served as a measure of activated positive affect (Grade 12 $\alpha = 0.94$, post-school $\alpha = 0.94$). For brevity, the joviality measure will be referred to simply as positive affect although other positive states such as calm, concentration and confidence were not measured. The sadness (5 items), fear (6 items) and hostility scales (6 items) were summed and the mean used as an index of negative affect (Grade 12 $\alpha = 0.93$, post-school $\alpha = 0.94$). This study did not include a measure of guilt. Scores were moderately stable, with test-retest correlations of $r = 0.42$ and $r = 0.52$ ($ps < 0.001$), respectively, for positive and negative affect.

The SWLS (Diener et al., 1985) is a measure of a person's global evaluation of their life; that is, a cognitive judgement about whether, in general, their circumstances meet their internal standards for a good life. It comprises five items (e.g. 'In most ways my life is close to my ideal') rated on a Likert scale from 1 (*strongly disagree*)

to 7 (*strongly agree*). In this study the scale's internal consistency reliability was high (Grade 12 $\alpha = 0.85$, post-school $\alpha = 0.90$) and there was a moderate test-retest correlation ($r = 0.54$, $p < 0.001$).

Analysis

Paired samples *t*-tests were used to examine changes over time. Relationships among variables were tested using Pearson product moment correlations (Hypothesis 1). The analyses for Hypotheses 2–4 consisted of a series of hierarchical regression analyses. In the first set, post-school well-being was predicted from Grade 12 values (Step 2) and post-school values (Step 3), controlling for baseline well-being (Step 1). In the second set, post-school values were predicted from Grade 12 well-being (Step 2) and post-school well-being (Step 3), controlling for baseline values (Step 1). Step 2 tests whether values are antecedent to well-being (Hypothesis 2), and whether well-being is antecedent to values (Hypothesis 4). Step 3 tests correlated change; that is, whether residual change in values correlates with residual change in well-being (Hypothesis 3). This is similar to the approach taken by Salmela-Aro and Nurmi (1997). It should be noted that because the baseline measures were not synchronous, we are not able to establish temporal precedence for the 'values as antecedent' model, although we can do this for the 'well-being as antecedent' model. This means we cannot make judgements which model is correct; merely whether each model is supported by the data (see Rogosa, 1980, for details). Moderation analysis, examining the interaction of activity with success in relation to well-being, was conducted using centred variables in a series of regression analyses including a cross-product term (Aiken & West, 1991).

Results

There were no significant changes in mean importance, activity or success from Grade 12 to the post-school measure (Table 1). Mean social pressure on values decreased significantly from Grade 12 to post-school, $t(188) = 3.38$, $p < 0.01$. During the transition from high school to early adulthood, negative affect decreased on average, $t(225) = 3.39$, $p < 0.01$, life satisfaction increased, $t(225) = -4.12$, $p < 0.001$, and positive affect did not change significantly, $t(225) = 1.18$, $p > 0.05$.

We conducted *t*-tests, with Bonferroni adjustment for multiple tests, to check for sex differences in mean scores on the values and well-being measures. Girls reported higher levels of negative affect in Grade 12 than boys. The other measures did not differ significantly by sex (see Table 1). All subsequent tests were based on the full sample.

Table 1. Descriptive statistics for the full sample and separately by gender: Grade 12 and post-school.

Variable	Full sample				Boys Mean (SD)	Girls Mean (SD)	Gender difference <i>t</i> (df)
	<i>N</i>	Mean (SD)	Scale range	Observed range			
Importance of values							
Grade 12	243	6.74 (0.97)	1–9	1.0–8.7	6.70 (1.10)	6.77 (0.86)	–0.54 (240)
Post-school	291	6.83 (0.87)	1–9	3.6–8.7	6.68 (0.98)	6.94 (0.77)	–2.48 (222)
Social pressure on values							
Grade 12	243	4.79 (1.70)	1–9	1.0–8.9	4.80 (1.88)	4.80 (1.54)	0.00 (198)
Post-school	289	4.33 (1.75)	1–9	1.0–8.1	4.35 (1.80)	4.31 (1.71)	0.18 (287)
Count of activated values							
Grade 12	243	46.90 (6.24)	0–52	1.0–51.0	46.87 (7.82)	46.90 (5.41)	–0.04 (240)
Post-school	292	46.55 (6.87)	0–52	1.0–51.0	47.02 (5.09)	46.22 (7.90)	0.97 (290)
Successful enactment							
Grade 12	242	3.20 (0.59)	1–5	1.9–4.8	3.19 (0.63)	3.21 (0.55)	–0.34 (239)
Post-school	289	3.20 (0.59)	1–5	1.1–5.0	3.21 (0.59)	3.20 (0.58)	0.24 (287)
Positive affect							
Grade 12	468	3.90 (0.86)	1–5	1.0–5.0	3.87 (0.88)	3.92 (0.88)	–0.71 (466)
Post-school	290	3.83 (0.85)	1–5	1.0–5.0	3.77 (0.84)	3.88 (0.86)	–1.10 (288)
Life satisfaction							
Grade 12	466	4.81 (1.33)	1–7	1.0–7.0	4.84 (1.24)	4.88 (1.39)	–0.36 (463.55)
Post-school	290	5.15 (1.24)	1–7	1.0–7.0	5.14 (1.12)	5.20 (1.28)	–0.44 (288)
Negative affect							
Grade 12	468	2.17 (0.82)	1–5	1.0–4.78	2.00 (0.76)	2.23 (0.84)	–3.11 (465.81)
Post-school	290	1.99 (0.84)	1–5	1.0–5.0	1.98 (0.85)	2.00 (0.77)	–0.27 (288)

Note: Gender differences were non-significant except for negative affect in Grade 12 ($p=0.002$, Bonferroni adjusted $\alpha=0.008$).

Importance correlated positively with activity and success (Table 2). Contrary to expectations, there were no correlations between pressure and either importance or success, and stronger pressure was associated with more, not less, values-driven activity. Scores for both importance and success were positively correlated with well-being (positive affect, life satisfaction) at baseline, at the post-school measure and longitudinally. Post-school activity was positively correlated with life satisfaction. Pressure was negatively correlated with positive affect and life satisfaction, and positively correlated with negative affect. These findings provide support for Hypothesis 1.

Hierarchical regression analyses were conducted to examine longitudinal relationships between values and the three components of well-being (Table 3). At the first step, the well-being measure (positive affect, life satisfaction or negative affect) at Grade 12 was entered. At Steps 2 and 3, mean value importance, pressure, activity and success – measured at Grade 12 and post-school, respectively – were entered. The strongest predictor of post-school positive affect, life satisfaction or negative affect was that variable measured in Grade 12 (autocorrelation). As a group, the values variables measured in Grade 12 did not add to the prediction of post-school well-being over and above well-being in Grade 12 (Hypothesis 2). The post-school betas (Step 3) reflect residualised change in values measures from Grade 12 because the Step 2 variables are co-varied. As seen in Table 3, residualised

change in one or more of the values variables significantly added to the prediction of change in the well-being variable over time. Specifically, increasing success at enacting values was associated with increased positive affect; increasing success and decreasing pressure were associated with increased life satisfaction; and increasing pressure and decreasing success were associated with increased negative affect (Hypothesis 3).

This analysis strategy is a conservative test because it focuses on the independent contribution of each values dimension, controlling for the other dimensions. Although the diagnostic statistics generated for these analyses did not indicate any problems with multicollinearity, there was a possibility that temporal effects of individual values dimensions on later well-being (Step 2 in Table 3) may have been masked because of correlations between the values variables. Therefore, a second set of hierarchical regression analyses predicting the three components of well-being was run, with one Grade 12 values dimension entered separately at Step 2 to avoid collinearity (i.e. separate models were run for importance, activity, success and pressure). No significant longitudinal effects were found; that is, Grade 12 values did not predict later well-being, controlling for Grade 12 well-being.

To test the hypothesis that well-being is a resource which promotes valued action (Hypothesis 4), four sets of hierarchical regression analyses were conducted (Table 4). At the first step, the value measure (mean importance, pressure, activity or success) at Grade 12

Table 2. Correlations (Pearson's r) among all study variables.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Importance Gr12													
2. Importance post-school	0.54***												
3. Pressure Gr12	0.10	0.08											
4. Pressure post-school	0.00	0.06	0.42***										
5. Activity Gr12	0.50***	0.29***	0.27***	0.08									
6. Activity post-school	0.15*	0.23***	0.09	0.14*	0.33***								
7. Success Gr12	0.48***	0.26***	-0.05	-0.03	0.06	0.06							
8. Success post-school	0.26***	0.44***	-0.03	-0.08	0.02	0.05	0.49***						
9. Positive affect Gr12	0.26***	0.20**	-0.16*	-0.13*	0.06	0.04	0.33***	0.24***					
10. Positive affect post-school	0.19**	0.24***	-0.06	-0.13*	0.08	0.05	0.22**	0.39***	0.42***				
11. Life satisfaction Gr12	0.15*	0.26***	-0.16*	-0.11	-0.04	0.15*	0.26***	0.31***	0.56***	0.33***			
12. Life satisfaction post-school	0.11	0.36***	-0.07	-0.18**	0.08	0.19**	0.13	0.45***	0.41***	0.49***	0.54***		
13. Negative affect Gr12	-0.01	-0.02	0.20**	0.18**	0.08	-0.05	-0.08	-0.18**	-0.44***	-0.31***	-0.51***	-0.37***	
14. Negative affect post-school	0.05	-0.16**	0.06	0.30***	0.05	-0.01	0.01	-0.27***	-0.29***	-0.42***	-0.36***	-0.59***	0.52***

Note: Sample sizes range from 188 to 468.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 3. Independent contributions of mean value importance, pressure, activity, and success to post-school well-being, controlling for baseline well-being.

Predictor	Post-school well-being					
	Positive affect		Life satisfaction		Negative affect	
	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1						
Well-being in Gr12	0.22***	0.46***	0.30***	0.54***	0.25***	0.50***
Step 2	0.02		0.01		0.01	
Importance Gr12		0.06		0.02		0.00
Pressure Gr12		-0.03		0.04		-0.07
Activity Gr12		0.09		0.05		0.03
Success Gr12		0.07		0.03		0.04
Step 3	0.09**		0.11***		0.12***	
Importance post-school		0.15		0.16		-0.02
Pressure post-school		-0.11		-0.21**		0.23**
Activity post-school		-0.06		-0.02		-0.02
Success post-school		0.21*		0.22*		-0.28**
Total R^2	0.32***		0.42***		0.38***	
n	164		164		164	

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

was entered. At Steps 2 and 3, the well-being variables – measured at Grade 12 and post-school, respectively – were entered. As shown in Table 4 (Step 2), life satisfaction measured in Grade 12 was an independent longitudinal predictor of post-school value importance, activity and success, controlling for baseline life satisfaction. That is, life satisfaction predicted residual change in these variables. At Step 3, residual change in the well-being variables correlated with residual change in values.

Increasing life satisfaction (relative to Grade 12) was independently associated with increased importance; increasing negative affect was associated with increased pressure; and increasing life satisfaction was associated with increased success in enacting values.

Finally, the moderation analysis, testing a possible interaction between activity and success in relation to well-being, was conducted using centred variables in three-step hierarchical regression analyses. The values

Table 4. Independent contributions of positive and negative affect and life satisfaction to post-school mean value importance, pressure, activity, and success, controlling for baseline value dimensions.

Predictor	Post-school values							
	Importance		Pressure		Activity		Success	
	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1								
Value in Gr12	0.30***	0.56***	0.18***	0.42***	0.11***	0.33***	0.26***	0.51***
Step 2	0.04*		0.01		0.05*		0.05*	
Positive affect Gr12		-0.04		-0.14		-0.15		-0.04
Life satisfaction Gr12		0.26**		0.05		0.29**		0.23*
Negative affect Gr12		0.11		-0.03		0.02		-0.02
Step 3	0.06**		0.07**		0.00		0.10***	
Positive affect post-school		0.15		0.01		-0.04		0.11
Life satisfaction post-school		0.22*		-0.14		0.04		0.20*
Negative affect post-school		0.05		0.22*		0.02		-0.15
Total R^2	0.40***		0.26***		0.16***		0.41***	
n	166		165		166		164	

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

dimensions (activity and success) were entered separately at Steps 1 and 2 and the cross-product (activity x success) at Step 3. For each hypothesis, six sets of analyses were conducted, one for each criterion variable based on the three components of SWB (life satisfaction, positive affect, negative affect) measured at two time points (Grade 12, post-school). The interaction term did not reach significance, indicating that the relationship between well-being and success did not alter depending on the number of values activated.

Discussion

A major task of late adolescence and emerging adulthood involves selecting goals consistent with values and future roles (Arnett, 2000; Salmela-Aro, 2009). Having many important values and successfully pursuing values-congruent goals has been proposed as a source of happiness (Diener, 1984; Lyubomirsky, Sheldon, et al., 2005; Sheldon, 2008); conversely, happiness can be seen as an asset which promotes positive outcomes (Lyubomirsky, King, et al., 2005) including the ability to live according to one's values (Sheldon, 2008). In this study, we used longitudinal data to test whether values were antecedent to well-being, and whether well-being was antecedent to values, across the transition from high school to adult life. We examined four dimensions of values: importance, values-driven activity, perceived pressure and successful enactment.

We found that life satisfaction in Grade 12 was antecedent to increasing value importance, activity and success from Grade 12 to one year post school. Having high life satisfaction means people have compared their lives favourably with an internal (subjective) ideal standard of a 'good life' (Diener et al., 1985). Our results suggest that adolescents who experience high life satisfaction are more likely to find things important, engage in valued activity and succeed in living according to their values as they move beyond high school. If young people are to find the sense of meaning and direction that values provide, they not only need to succeed in their senior year, they also need to feel satisfied with their lives.

Our study adds to a small body of previous research examining a reciprocal model of influence between values and well-being in emerging adulthood, an important developmental period during which values-driven goal pursuit shapes identity. At the age of 27 or 28, participants in one study reported on whether they had achieved their educational, marital and parenthood goals (Messersmith & Schulenberg, 2010). Attainment – of marital goals only – was predicted by higher life satisfaction, self-esteem and satisfaction with self at age 18. Low levels of depression and high self-esteem among undergraduate students predicted increasing interest in

achievement and marriage goals, respectively, over the next two years (Salmela-Aro & Nurmi, 1997). In turn, increased interest in these goals predicted increasing self-esteem. Similarly, progress towards self-nominated goals during their first semester of college completely mediated the relationship between students' initial adjustment and their well-being in their final year (Sheldon, 2008).

These findings are consistent with research demonstrating the benefits of positive emotion (Lyubomirsky, King, et al., 2005). Broaden-and-build theory provides an explanation for our finding that well-being precedes valued action. Positive emotions are adaptive because they enable an individual to broaden attention and behavioural repertoires, and facilitate generativity and flexibility in action (Fredrickson & Losada, 2005). Young people who have high levels of positive emotions are more likely to be able to meet life's challenges and opportunities, and thus build high life satisfaction (Cohn, Fredrickson, Brown, Mikels, & Conway, 2009). In turn, life satisfaction facilitates valued action. We found that values were predicted by life satisfaction but not positive emotion: the former relationship is more direct, and would be expected to be stronger, than the latter. Future research with measures at (at least) three time points could test this mediational model. Low levels of well-being may lead to an excessive focus on self and personality, rather than on normative developmental strivings which, when achieved, are likely to enhance well-being (Salmela-Aro & Nurmi, 1997). Our findings suggest that this relationship may also apply (albeit over a one-year timeframe) to the wide range of values and abstract goals measured by the SGP, and to the additional dimensions of perceived pressure and activity which were not included in the previous research cited above.

Most previous research on value importance and goal attainment has treated values as precursors to well-being. Consistent with this view, we found positive correlations between Grade 12 value importance and success and post-school positive affect (Hypothesis 1). However, these associations became non-significant when baseline well-being was controlled for in regression (Hypothesis 2). Because our baseline measure of values was six months after our baseline measure of well-being, it is possible that life satisfaction changed over the first six-month period, leading to changes in value importance that we could not detect. In short, we do not have a definitive test of this model, and therefore it is still possible that values are antecedent to well-being, as found in previous studies.

Hypothesis 3 (correlated change) was supported: residual change in valued action was correlated with residual change in SWB. Participants who reported increased success at enacting values also reported increased positive affect; increasing success and decreasing pressure were associated with greater life satisfaction;

and increasing pressure and decreasing success were associated with greater negative affect. In other words, emerging adults who placed more importance on their values, perceived less social pressure and increasingly enacted their values experienced more happiness, less sadness and a more satisfying life in the year following their transition from high school. This finding supports the traditional view that commitment to personally relevant values and goals is important for a successful transition to adulthood (Cohen & Cohen, 2001). It also supports the use of values as a focus for ACT, including the possibility that well-being may be a useful 'side benefit' associated with valued action. In ACT, the goal of therapy is not (explicitly) symptom control but committed action in line with one's values. Valued action may well improve concurrent happiness, but future happiness will depend on continued valued action. That is, if living according to values has benefits, these will be experienced in the moment. According to positive psychology, those moments of happiness will help build lasting personal resources such as resilience which will, in turn, promote further valued action. Continual values-congruent effort is necessary, however, in order to maintain gains (Sheldon et al., 2010). The two perspectives are complimentary, and our findings are consistent with both.

The process of internalising values – feeling that they are central to the self, actively pursued, and not pressured by others – is seen as essential to the socialisation and well-being of a young person (Vansteenkiste, Lens, & Deci, 2006). Our findings suggest that the reverse may also be true: well-adjusted adolescents may be better able to internalise values and successfully meet social expectations. We were able to demonstrate that life satisfaction is a unique predictor of – and precedes – value importance, activity and success over a 12-month period. This does not prove causality, as we cannot eliminate the possibility of a third variable influencing both values and well-being. Nevertheless, our findings are consistent with causality and certainly a step above cross-sectional analyses. The correlated change between these measures lends support to the idea that well-being may help equip a young person for later valued action. We found that residual change in life satisfaction was correlated with residual change in value importance, changes in life satisfaction and negative affect were correlated with changes in perceived pressure, and changes in all three components of SWB were linked with changes in success. Taken together with the significant cross-lag between life satisfaction and post-school values, these findings suggest that poor adjustment in late adolescence may contribute to difficulties in pursuing valued action and a greater perception of external control over one's values at this key transition point.

Because the SGP encompasses a comprehensive range of values, participants of any age can endorse those most relevant to them, personally. The relative importance, pressure and success of particular values (e.g. hedonism vs. relationship values) are likely to change with developmental stage, but mean levels of these values dimensions may be a more stable personal characteristic. That is, some people may be more inclined to find many things important, or to feel very pressured, than others. Indeed, we found no significant change in mean importance and success over the short, one-year measurement interval of our study, although mean pressure did decrease, probably reflecting participants' greater freedom from the constraints of family and school. Further research with the SGP is needed to investigate change and stability in values over longer time frames, and across other important transition periods in development, such as becoming a parent.

Our study also addressed a number of basic questions about the relationship between mean value importance, values-driven activity, successful enactment and well-being. As in previous studies, participants were more likely to enact values if they considered them highly important (Brunstein, 1993; Niemiec et al., 2009; Salmela-Aro & Nurmi, 1997). Correlation analyses showed that the higher importance a young person placed on their values overall, and the more they succeeded in enacting their values, the greater their life satisfaction and positive emotion. Higher total activation of values post-school was also positively associated with life satisfaction, although not with the affective components of SWB. The alternative hypothesis – that having many important values is a burden and a source of conflict (Skaletz & Seiffge-Krenke, 2010) – was not supported. The lack of support for activity as a moderating variable – that is, the relationship between successful enactment and well-being does not depend on the number of values activated – indicates that it is not necessary to act upon many different values to enjoy the benefits of valued action.

High levels of pressure were correlated with high negative affect and low positive affect and life satisfaction. Pressure was not, however, correlated with importance or success. Those who felt strong social pressure on their values were no more or less likely to consider those values important, or to act upon them, than those who felt less pressured. Our findings suggest that pressure is a distinct dimension of values and has a unique relationship with well-being, over and above importance and goal attainment which are more commonly measured. Placing priority on certain values in order to avoid guilt or shame or to gain approval from other people can lead to suffering (Zettle, 2007). Some theorists (e.g. Sheldon, 2001) argue that achieving a pressured goal

brings little joy and studies have consistently demonstrated links between external control over goals and poor outcomes, including reduced well-being (Deci & Ryan, 2000; Sheldon et al., 2004). However, it is also plausible that acquiescing to social pressure is adaptive (particularly for the pro-social values) and could enhance social support and thus improve happiness. Interactions between pressure and success could be further explored using the SGP.

Implications for values measurement in ACT

Values are considered a critical process and outcome of ACT interventions (Plumb et al., 2009). However, the measurement of values and valued action in the ACT context is at an early stage of development (Plumb et al., 2009). Values measures currently used in ACT include the *Valued Living Questionnaire* (Wilson et al., 2010), which assesses importance and behavioural consistency with 10 types of values. Completing the *Bull's-Eye* (Dahl et al., 2009) involves listing one's values in each of four domains – work and education, leisure, relationships, and personal growth – and marking a target to indicate how closely one is living in accordance with those values. Both were primarily designed for values clarification with clients, although the latter has also been used as an outcome measure in research (Plumb et al., 2009). The SGP is a complementary measure designed for use in both therapy and research and based closely on mainstream psychological models of values. It enables clinicians and researchers to test explicitly the extent to which values are subject to social pressure and are enacted. Our study adds to previous literature demonstrating that perceived pressure or external control is a distinct and useful additional dimension of values (e.g. Sheldon, 2001) and builds on previous validation of the SGP (Veage et al., 2011) by showing that the instrument relates to established measures of SWB in expected ways.

The finding that successful enactment is associated with enhanced well-being, regardless of the number of values activated, suggests that therapy focusing on the activation of a few, highly important values will be beneficial for most clients.

Limitations and directions for future research

Our sample was drawn from five Australian Catholic high schools, which limits the generalisability of our results. Although Catholic schools are heavily subsidised and therefore affordable to a wide range of socio-economic groups, the values instilled in students by parents, teachers and the church may not be representative of the broader Australian population. As in many previous studies (e.g. Sheldon et al., 2010), we measured valued action from the participants' perspective. Further,

our positive affect measure focused on activated positive states, excluding low-arousal states, such as calm and concentration, and our negative affect measure excluded the guilt sub-scale. Future studies could include more complete measures of affective states and observer ratings or other objective measures of whether participants attain concrete goals, to ascertain whether these are as strongly related to well-being as more abstract, subjective values. Finally, observational longitudinal research is not able to eliminate the possible influence of other variables; future research should use an experimental design in which values (or well-being) are manipulated and the other variable measured.

Strengths of our study include its focus on the transition from high school, and its diverse sample which included young adults who were employed full-time, seeking work or in vocational training, as well as university students. Young people with the highest levels of life satisfaction in Grade 12 reported increasing value importance, more values-driven activity and greater success in enacting their values as they moved into adult life. Change in well-being was correlated with change in values. Strong perceived pressure on values was associated with lower well-being, but was independent of mean importance and valued action. Our finding that valued action follows well-being builds on a small body of literature exploring the interaction of these constructs in promoting healthy development and a meaningful, satisfying life for emerging adults.

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