

# What You Can and Can't Change: Lay Perspectives on Seligman's Guide

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## Abstract

**Seligman (2007)** reported 10 facts about what psychological processes and problems can be changed, and those that cannot be changed. Over 250 participants completed a questionnaire where they indicated the extent to which they agreed with Seligman, as well as a measure of the Big Five personality traits, CORE self-beliefs and a measure of **Dweck's (2012)** "Change Mindset" questionnaire. Lay people did not agree with Seligman and factor analysis did not confirm his grouping. Regressions indicated that age, sex, religiousness and Mindset were related to beliefs about change. Limitations are noted.

## Keywords

Change, Plasticity, Plaster, Seligman, Mindset, Factor Analysis

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## 1. Introduction

The issue of what beliefs and behaviour Can and Can't Change is fundamental to a great deal of psychology. There are a very large number of self-help books that promise to provide the answer of how to change behavior, from the "curing" of addictions to general health and happiness. Many offer simple solutions to complex psychological phenomena and processes and often make claims that are not supported by disinterested, peer-reviewed, empirical research (**Lilienfeld, Lynn, Ruscio, & Beyerstein, 2010; Sala, 1999**).

In an attempt to "review with unflinching candour the effectiveness of most different kinds of treatment for the major psychological disorders", **Seligman (2007: p. xi)** provided some facts about psychological change. In his book he reviewed the changeability of sixteen disorders including sexual preferences, identities, orientations and dysfunctions. He also provided 10 "facts about change": this study examined the extent to which lay people

agreed with his thesis

### 1.1. Changing Behaviour: Personality, Problems and Intelligence

There are debates in various areas of psychology about how to change individuals, as well as groups and organizations as a whole. In personality theory there are debates between those who argue that people do change (considerably and significantly over time) and those who suggest they do not (Ardelt, 2000). This is sometimes called the plaster vs. plastic hypotheses with the former scholars suggesting that personality traits change very little over time, while the latter argue that significant, systematic and explicable changes do occur (Furnham & Cheng, 2015). Over the years the “plaster” hypothesis of little or no change (McCrae & Costa, 1994) had been replaced with the “plasticity” hypothesis of possible change (Roberts, Walton, & Viechtbauer, 2006). It seems now that many trait theorists recognize that traits can and do change over time though there remains debate about which traits change least and most, why and by how much.

Equally there were studies in clinical psychology that examine theories of, and evidence for change and “cure” as a function of therapy (Furnham, Wilson, Chapman, & Persaud, 2013; Roberts, Walton, & Viechtbauer, 2006). In a study comparing lay people and clinical psychologists, Furnham, Wardley, & Lillie (1992) found clinicians much less optimistic and more skeptical about the efficacy of therapy and the prognosis of personal problems compared to lay people. Thus therapists believed that while phobias, anxiety attacks and sleep disorders had a good prognosis and autism, dementia and drug dependence a poor prognosis, lay people were much more optimistic overall about all 36 problems presented.

There is also a debate about whether intelligence can change; that is whether people can become more intelligent. This is a topic of considerable academic debate with some arguing that people can, and others that you cannot, sustainably increase their intelligence. Thus Kuszewski (2011) concluded thus: “Fluid intelligence is trainable. The training and subsequent gains are dose-dependent, meaning, the more you train, the more you gain. Anyone can increase their cognitive ability, no matter what your starting point is. The effect can be gained by training on tasks that don’t resemble the test questions (p2)”. Some studies had supported this assumption (Jausovec & Jausovec, 2012).

This study is on lay beliefs about change. In one relevant study Furnham (2014) looked at the extent to which people believed they could increase their multiple intelligences. He found whilst Verbal, Naturalistic and Intra-personal intelligence was thought to be relatively easy to change, creative and musical intelligence was seen as much less so. He also found that participant Core Self-Evaluation and Growth Mindset were both significant positive correlates on beliefs about growing/changing intelligence. This study extends that research.

### 1.2. Mindsets

According to Dweck (2012) individuals holding an entity theory of intelligence believe that intelligence levels remain constant over a person’s lifetime regardless of their education, effort and experience gained. This is the result of what Dweck (1986, 2000, 2012), who pioneered research in this area, calls a Fixed Mindset. Entity theorists believe that they can learn new things (skills, knowledge) but their underlying intelligence level essentially never changes. By contrast, incremental theorists believe that intelligence can be increased and cultivated over a lifetime through hard work and continued learning. Fixed mindset, entity theorists tend not increase their level of effort in educational and work environments because they do not believe they can improve their performance. Incremental theorists however, tend to acknowledge the importance of effort when approaching a learning task (Dweck, 2000, 2012).

Entity theorists are essentialist with regard to their beliefs about intelligence (Haslam, Bastian, & Bissett, 2004). Indeed the whole issue of malleability and immutability of abilities and temperament is at the heart of many psychological debates (Tay & Kuykendall, 2013) including the “talent myth” and 10,000 hour rule which suggests all expert/elite performance can be trained if people put in sufficient effort (Ackerman, 2014).

### 1.3. This Study

This paper examines the extent to which people believe Seligman’s analysis and which individual difference factors are related to these beliefs. The first question concerned whether lay people would agree with Seligman’s analysis about change. The second question concerned the correlates of these beliefs. It was hypothesized that

those with a Growth Mindset (incremental rather than entity) would believe more of the behaviours to be changeable.

## 2. Method

### 2.1. Sample

A total of 277 participants completed the questionnaire for the current study, recruited on a largely opportunistic basis. The sample included 186 females, with age ranging between 16 and 78 years ( $M = 24.5$ ,  $SD = 12.8$ ). The sample comprised of the following Ethnic Origins: 64% European/Caucasian, 26% Asian/British Asian origin and 10% “other”. Some element of Socio-Economic Status (SES) was recorded in the form of employment, annual income and marital status. The vast majority of the sample comprised non-psychology students (82%) whilst the rest were either employed (13%), unemployed (4.6%) or preferred not to state. 40% of participants were either married or in a relationship, 57% were single whilst the remainder were divorced, separated or widowed. Participants’ political orientation was reported on a 1 - 7 scale (left wing - right wing) and followed a fairly normal distribution ( $M = 4.17$ ,  $SD = 1.14$ ). Religious piety was also reported on a 1 - 7 scale (non-religious - very religious), however, the distribution of responses was fairly skewed, suggesting that participants were mostly more non-religious ( $M = 2.93$ ,  $SD = 1.79$ ). Participants were not offered any payment for participation and no exclusions were made.

### 2.2. Measures

1) Change: The first section comprised 10 items: taken as direct quotes from [Seligman 2007: p. 5](#). Participants were required to rate, on six point scale with 1 = Strongly Disagree and 6 = Strongly Agree. The items were alternated with Can and Can’t Change according to Seligman’s theories. These are shown in **Table 1** in the order in which they appeared in the questionnaire.

2) Personality: A short, 15 item, Big Five personality traits measure was included in the third section, to score participants on Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness. There are three items per trait and some are reverse scored. This abbreviated version has been used in a number of papers in recent years, for its quick and accessible nature ([McManus & Furnham, 2006](#)). Cronbach’s Alpha scores fall in the range of  $\alpha = 0.52$  and  $\alpha = 0.69$  ([Furnham et al., 2003](#)). A higher score on each of these measures denoted a higher level of that personality trait.

3) Core self-evaluations scale measure (Core) ([Judge et al., 2003](#)) comprising 12 items. Responses in this section were reported on a 1 - 5 scale (strongly disagree—strongly agree). Of the 12 items, six were positively-

**Table 1.** The 10 statements, means (and SDs) plus the results of the factor analysis.

Rating; 1 = Strongly Disagree to 6 = Strongly Agree	Mean	SD	Factor Analysis	
			1	2
1. Panic can be easily unlearned, but cannot be cured by medication.	3.32	1.16	<b>0.64</b>	0.03
2. Dieting, in the long run, almost never works.	3.26	1.33	0.27	0.00
3. The sexual “dysfunctions”—frigidity, impotence, premature ejaculation—are easily unlearned.	2.90	0.98	<b>0.66</b>	-0.06
4. Kids do not become androgynous easily.	3.55	1.01	<b>0.47</b>	0.18
5. Our moods, which can wreak havoc with our physical health, are readily controlled.	3.23	1.11	<b>0.61</b>	0.11
6. No treatment is known to improve on the natural course of recovery from alcoholism.	3.03	0.96	0.26	<b>0.50</b>
7. Depression can be cured by straightforward changes in conscious thinking or helped by medication, but it cannot be cured by insight into childhood.	3.18	1.13	0.09	<b>0.74</b>
8. Homosexuals cannot become heterosexual.	3.72	1.48	-0.25	<b>0.47</b>
9. Optimism is a learned skill. Once learned, it increases achievement at work and improves physical health.	3.98	1.06	0.22	-0.17
10. Reliving childhood trauma does not undo adult personality problems.	3.33	1.05	0.07	<b>0.69</b>
<b>Items in Italics are those Seligman claims are changeable</b>			<b>Eigenvalue</b>	<b>1.76</b>
			<b>Variance</b>	<b>117.06</b>
			<b>15.64</b>	

worded and six were negatively-worded (reverse-scored) on an alternating basis. Once scores were reversed accordingly, they were summated and a total Core total was obtained—a higher score representing a more positive evaluation. The alpha was 0.87.

4) Mindset beliefs (Dweck, 2012). 16 questions were given to participants, to score on the same 1-5 (strongly disagree—strongly agree) scale. Half the items assessed mindset in terms of ‘intelligence,’ with the remaining items re-phrased in terms of “talent”. Items were either positively (growth) or negatively-worded (fixed) in a random order. A positively worded question included items such as, “No matter who you are, you can significantly change your intelligence level”. Cronbach’s alpha for this scale has been reported to be high ( $\alpha = 0.93$ ; Levy et al., 1998;  $\alpha = 0.93$ ; Heslin & Van de Walle, 2011). Negatively-worded responses were reverse-coded, therefore a high score on this measure represented a “Growth” Mindset.

Demographic information was obtained including age, gender, occupation, ethnicity, educational status, marital status, income, religious piety and political orientation—both reported on a scale of 1 (not at all religious/left wing) to 7 (very religious/right wing).

### 2.3. Procedure

Departmental Research Ethics permission was first sought and granted. Completion of the questionnaire took less than 10 minutes and a short de-brief followed. Participants were approached by six research assistants in London. Psychology students were excluded from the analysis. The refusal rate was about 10%.

The results were analysed by factor analysis and multiple regressions.

### 3. Results

**Table 1** shows scores on the items and the Varimax rotated factor analysis. According to Seligman’s analysis the odd item statements (1, 3, 5, 7, 9) are about things you can change, and the even items (2, 4, 6, 8, 10) things you cannot change. From the scores it seems that participants agreed most with items 8 and 9 and least with items 3 and 6. The factor analysis showed two factors: the first had three “Can Change” items loading on it most highly; the second three than indicated “no change”.

The two factors were correlated with all the demographic and test scores. Few were significant. Thereafter regressions were computed with the two factor scores as the criterion variables. In the stepwise regression first age and gender were entered; followed by religiousness and political orientation as indices of ideology; followed by the Mindset; and finally the Big Five in addition to CORE. The first regression was not significant, but the second was ( $F(11, 258) = 3.78, p < 0.001$ , Adj  $R^2 = 0.10$ ). Three of the variables were significant predictors: Age (Beta = 0.14,  $t = 2.31, p < 0.05$ ); Religiousness (Beta = -0.19,  $t = 3.27, p < 0.001$ ) and Growth Mindset (Beta = -0.25,  $t = 4.12, p < 0.001$ ). It indicated that older, more religious people with a non-growth mindset tended to believe that behaviours are hard to change.

Seligman’s two factors were then combined into two scores based on his classification: Can Change and Can’t Change. The regressions were repeated. The Can Change regression was not significant. The Can’t Change regression was significant ( $F(11, 258) = 4.39, p < 0.001$ , Adj  $R^2 = 0.12$ ). Three of the variables showed significant Beta’s: Age (Beta = 0.13,  $t = 2.52, p < 0.05$ ), Gender (Beta = 0.20,  $t = 3.40, p < 0.001$ ), Religiousness (Beta = -0.16,  $t = 2.78, p < 0.01$ ) and Growth Mindset (Beta = -0.26,  $t = 4.33, p < 0.001$ ). Older, more religious males with a Fixed Mindset did not “believe in change”.

### 4. Discussion

This study demonstrated three things. First, that overall lay people didn’t tend to agree on the whole with Seligman in that mean scores tended to below 3.5 on the six points agree-disagree scale. However there was little differentiation between the Can Change and Can’t Change items. Second, and related to the above, the implicit categorization as shown by the factor analysis did not confirm Seligman’s Can/Can’t classification. Third, there were modest and predictable correlates of these ratings, specifically demographic but particularly the Mindset factor which related specifically to intelligence. It might well be that there were plasticity-optimists and plaster-pessimists; the former believing most things were changeable and the latter unchangeable. What seemed to be the case was that lay people were less able to differentiate between these conditions where evidence had shown some things to be more-or-less curable and others not.

This study illustrated the misconceptions people had about psychology. [Lilienfeld, Lynn, Ruscio, & Beyerstein \(2010\)](#) discussed 50 myths about popular psychology with six concerning mental illness. Despite or even because of the number of “popular”, particularly self-help books on medical and psychological issues, many people remained poorly informed about the prognosis of many illnesses.

This study had limitations. It had relative small, unrepresentative population. It considered only 10 issues/statements that were identified by [Seligman \(2007\)](#) and presumed correct. It did not look at other possible predictor factors like a person’s specific education or personal experience of mental illnesses. In this sense it could be seen as a pilot study.

The conclusion drawn from this study was that lay people did not share Seligman’s distinction between what personal characteristics could and couldn’t be changed by some sort of intervention like therapy. Their beliefs in change were related to various characteristics and beliefs. This was an important area of study as beliefs about change were related to pathways to help-seeking and advice giving.

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