

# The Affective Profiles in the USA: Happiness, Depression, Life Satisfaction, and Happiness-Increasing Strategies

**Background.** The affective profile model categorizes individuals as self-fulfilling (high positive affect, low negative affect), high affective (high positive affect, high negative affect), low affective (low positive affect, low negative affect), and self-destructive (low positive affect, high negative affect). The model has been used extensively among Swedes to discern differences between profiles regarding happiness, depression, and also life satisfaction. The aim of the present study was to investigate such differences in a sample of residents of the USA. The study also investigated differences between profiles with regard to happiness-increasing strategies.

**Methods.** In Study I, 900 participants reported affect (Positive Affect Negative Affect Schedule; PANAS) and happiness (Happiness-Depression Scale). In Study II, 500 participants self-reported affect (PANAS), life satisfaction (Satisfaction With Life Scale), and how often they used specific strategies to increase their own happiness (Happiness-Increasing Strategies Scales).

**Results.** The results showed that, compared to the other profiles, self-fulfilling individuals were less depressed, happier, and more satisfied with their lives. Nevertheless, self-destructive were more depressed, unhappier, and less satisfied than all other profiles. The self-fulfilling individuals tended to use strategies related to agentic (e.g., instrumental goal-pursuit), communal (e.g., social affiliation), and spiritual (e.g., religion) values when pursuing happiness.

**Conclusion.** These differences suggest that promoting positive emotions can positively influence a depressive-to-happy state as well as increasing life satisfaction. Moreover, the present study shows that pursuing happiness through strategies guided by agency, communion, and spirituality is related to a self-fulfilling experience described as high positive affect and low negative affect.

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23 **Introduction**

24 Besides being markers of well-being (Diener, 1984), positive (PA) and negative affect (NA) have  
25 been shown to reflect stable emotional-temperamental dispositions (e.g., Watson and Clark, 1994;  
26 Tellegen, 1993). Larsen and Ketelaar (1991), for example, showed that individuals who  
27 experience high levels of PA, compared to individuals who experience low levels of PA, attend  
28 and react more intensely to positive stimuli. Likewise, individuals who experience high levels of  
29 NA, compared to individuals who experience low levels of NA, attend and react more intensely  
30 to negative stimuli (see also Norris, Larsen and Cacioppo, 2007; Lucas, 2008; Lucas and Diener,  
31 2008). One of the most used instruments to measure affect, is the Positive Affect and Negative  
32 Affect Schedule (PANAS; Watson, Clark and Tellegen, 1988), which was developed on the idea  
33 that PA and NA represents two orthogonal independent dimensions: high PA versus low PA and  
34 high NA versus low NA (see also Watson and Tellegen, 1985).

35 Presenting affect as being composed of two systems, each one of them categorized as high  
36 and low, leads to four different combinations beyond the two-system approach (Garcia, 2011; for  
37 a point of view on two-system theories see Keren and Schul, 2009). In this line of thinking,  
38 Archer and colleagues have developed the affective profile model through self-reported  
39 affectivity using the PANAS, generating four different profiles: self-fulfilling (high PA, low  
40 NA,); high affective (high PA, high NA); low affective (low PA, low NA); and self-destructive  
41 (low PA, high NA) (e.g., Norlander, Bood and Archer, 2002; Bood, Archer and Norlander, 2004;  
42 Norlander, Johansson and Bood, 2005; Archer, Adriansson, Plancak and Karlsson, 2007;  
43 Karlsson and Archer, 2007; Palomo, Kostrzewa, Beninger and Archer, 2007; Palomo, Beninger,  
44 Kostrzewa, and Archer, 2008; Archer, Adolfsson and Karlsson, 2008).

45 Self-fulfilling individuals report feeling more energetic and optimistic than the other three  
46 affective profiles (Archer et al., 2007), while all four profiles react differently to stress and have

47 different exercise habits and blood pressure. Self-fulfilling and high affective individuals show  
48 the best performance during stress, have a more active life, and lower blood pressure than  
49 individuals with low affective and self-destructive profiles (Norlander et al., 2002; 2005).  
50 Nevertheless, Kunst (2011) showed that high affective profiles, as self-destructive profiles, were  
51 strongly associated with increased posttraumatic stress disorder symptoms severity (for similar  
52 results among psychiatric patients see Zöller and Archer, 2009; Zöller, Karlsson and Archer,  
53 2009). Moreover, while low affective profiles have responded maladaptively to induced stress,  
54 compared to self-fulfilling and high affective individuals (Norlander et al., 2002), they have at the  
55 same time reported less stress in their life, as the self-fulfilling profiles (Norlander et al., 2005).  
56 Thus, the affective profile model offers something unique over and above the single dimensional  
57 framework by taking into account how both dimension interact. These interactions can be used to  
58 investigate individual differences in cognitive and emotional aspects of health and well-being (for  
59 a review see Garcia, Ghiabi, Moradi, Siddiqui & Archer, 2013).

60       Most past research using the affective profile model among adults has focused on  
61 measures of ill-being. Nevertheless, other important aspects of mental health are positive  
62 measures of well-being (Cloninger, 2006). Happiness, for example, can be usefully understood as  
63 the opposite end of depression (e.g., Joseph, Linley, Harwood, Lewis & McCollam, 2004; Russell  
64 and Feldman Barrett, 1999; Watson, Wiese, Vaidya, and Tellegen, 1999; Yik, Russell, and  
65 Feldman Barrett, 1999). Life satisfaction, another positive measure of well-being (Diener, 1984;  
66 Bradburn, 1969; Diener, Suh, Lucas and Smith, 1999; Pavot, 2008), refers instead to a  
67 comparison process in which individuals assess the quality of their lives on the basis of their own  
68 self-imposed standard (Pavot & Diener, 1993).

69       Recent studies among adolescents have, indeed, focused on differences among profiles  
70 with respect to different measures of well-being, personality and self-regulation (e.g., Garcia and  
71 Siddiqui, 2009a b; Garcia, Rosenberg, Erlandsson and Siddiqui, 2010; Garcia, 2009, 2011,

72 2012a; Garcia and Archer, 2012; Garcia, Kerekes, Andersson-Arntén, and Archer, 2012; Garcia,  
73 2013). Garcia and colleagues have found that, compared to the other profiles, individuals with a  
74 self-fulfilling profile reported higher satisfaction with life, higher psychological well-being,  
75 lower depressive symptoms, and scored higher in personality traits related to agentic values (i.e.,  
76 autonomy, responsibility, self-acceptance, intern locus of control, self-control). Nevertheless, low  
77 affective individuals, compared to self-destructives, have reported being more satisfied with life  
78 and experiencing higher levels of psychological well-being (e.g., Garcia and Siddiqui, 2009b).  
79 These specific findings are also in line with the observations that low affectives and self-fulfilling  
80 individuals, report less stress in their lives (Norlander et al., 2005). Moreover, Garcia (2012a)  
81 also showed that high affective and self-destructive profiles, compared to self-fulfilling and low  
82 affectives, scored higher on Neuroticism. This is not surprising, because Neuroticism is almost  
83 synonymous with negative affectivity (Watson and Clark, 1984; Tellegen, 1985)—both the high  
84 affective and self-destructive profiles have high levels of NA as a common characteristic, PA is  
85 instead suggested as strongly positively related to Extraversion. These differences in personality  
86 and well-being among profiles are suggested to, in accordance to Higgins' (1997) prevention and  
87 promotion focus principles, result in differences in how individuals increase their happiness  
88 levels (i.e., by approaching happiness or avoiding unhappiness). Although there are current  
89 measures of happiness-increasing strategies, this suggestion has not been investigated in earlier  
90 research using the affective profiles model.

### 91 *Happiness-Increasing Strategies*

92 In order to intentionally pursue happiness, people seem to use different strategies. Tkach and  
93 Lyubomirsky (2006) have identified, using first an open-ended survey, 53 happiness-increasing  
94 strategies used by residents of the USA (for studies using this scale among Swedes see, Garcia,  
95 2012b; Nima, Archer and Garcia, 2012, 2013). Tkach and Lyubomirsky (2006) found, using

96 factor analysis, eight factors: Social Affiliation (e.g. “Support and encourage friends”), Partying  
97 and Clubbing (e.g. “Drink alcohol”), Mental Control (e.g. “Try not to think about being  
98 unhappy”), Instrumental Goal Pursuit (e.g. “Study”), Passive Leisure (e.g. “Surf the internet”),  
99 Active Leisure (e.g. “Exercise”), Religion (e.g. “Seek support from faith”) and Direct Attempts  
100 (e.g. “Act happy/smile, etc.”).

101 Results have shown that these happiness-increasing strategies accounted for 52% of the  
102 variance in happiness, while the Big Five personality traits, which traditionally have been linked  
103 to happiness, accounted for 46%. Further, even after controlling for the contribution of  
104 personality, the happiness-increasing strategies accounted for 16% of the variance in happiness.  
105 However, these relationships might not be a direct one. For example, Extraversion, which is  
106 strongly related to high PA (Larsen & Ketelaar, 1991), is related to the use of the Social  
107 Affiliation strategy, which, in turn, is related to happiness. Tkach and Lyubomirsky (2006)  
108 suggested that the efficacy of the happiness-increasing strategies is also likely to vary to some  
109 extent. However, the strategy that was the most robust predictor of low levels of happiness was  
110 Mental Control, which was closely related to Neuroticism. This strategy is defined as ambivalent  
111 intentional efforts aimed, on one side and avoidance of negative thoughts and feelings as well as  
112 proneness towards contemplation of negative aspects of life on the other. Regarding the affective  
113 profiles, if the profiles differ in the way they pursue happiness (i.e., approaching happy  
114 experiences versus preventing unhappy experiences), then it could be expected that the profiles  
115 differ in the use of the strategies described here. For example, it could be expected that high PA  
116 profiles should score higher in strategies such as Social Affiliation and Active Leisure due to the  
117 close positive relationship between Extraversion and PA. High NA profiles could be expected to  
118 score higher in strategies such as Mental Control, because the positive relationship between  
119 Neuroticism and NA.

120 ***The present study***

121 To the best of our knowledge, the affective profiles model has been mostly used among Swedish  
122 participants. Some cultures explain the world as good and controllable and others emphasize  
123 negative emotions as normal (Myers & Diener, 1995; Diener, Suh and Oishi, 1997). In this  
124 context, it is interesting noticing that the right to pursuit individual happiness is listed as an  
125 absolute right in the United States of America's declaration of independence (Tkach and  
126 Lyubomirsky, 2006). The model, however, has shown identical results in the few studies using  
127 other populations (for three studies using Dutch, Indonesian, respectively Iranian participants see  
128 Kunst, 2011; Adrianson, Djameludin, Neila and Archer, 2013; Garcia and Moradi, 2013).

129 The aim of the present study was to investigate differences in happiness, depression, life  
130 satisfaction and use of strategies to increase happiness among affective profiles in residents of the  
131 United States of America (US-residents).

## 132 Study I

### 133 Method

#### 134 *Ethics statement*

135 This research protocol was approved by the Ethics Committee of the University of Gothenburg  
136 and written informed consent was obtained from all the study participants.

#### 137 *Participants and procedure*

138 The participants ( $N = 900$ , age  $mean = 28.72$   $sd. = 19.10$ , 550 males and 350 females) were US-  
139 residents recruited through Amazons' Mechanical Turk (MTurk;  
140 <https://www.mturk.com/mturk/welcome>). MTurk allows data collectors to recruit participants  
141 (workers) online for completing different tasks in change for wages. This method for data  
142 collection online has become more common during recent years and it is an empirical tested valid  
143 tool for conducting research in the social sciences (see Buhrmester, Kwang & Gosling, 2011).  
144 Participants were recruited by the following criteria: US-resident and to both speak and write  
145 fluent in English. Participants were paid a wage of two American dollars for completing the task

146 and informed that the study was confidential and voluntary. The participants were presented with  
147 a battery of self-reports comprising the affect and happiness measures, as well as questions  
148 pertaining age and gender.

#### 149 ***Instruments***

150 *Positive Affect and Negative Affect Schedule (PANAS; Watson et al., 1988)*. The PANAS instructs  
151 participants to rate to what extent they generally have experienced 20 different feelings or  
152 emotions (10 PA and 10 NA) during the last weeks, using a 5-point Likert scale (1 = *very slightly*,  
153 5 = *extremely*). The 10-item PA scale includes adjectives such as strong, proud, and interested.  
154 The 10-item NA scale includes adjectives such as afraid, ashamed and nervous. *Cronbach's  $\alpha$*   
155 were .87 for PA and .89 for NA in the present study.

156 *The Short Depression-Happiness Scale (Joseph et al., 2004)*. This instrument consists of  
157 six items, three items measuring happiness (e.g., "I felt happy") and three reverse coded items  
158 measuring depressive states (e.g., "I felt my life was meaningless"). Participants rate how  
159 frequently they feel the way described in the item on a four-point scale: "*never*", "*rarely*",  
160 "*sometimes*", "*often*". In the present study, *Cronbach's  $\alpha$*  was .85 for the happiness scale and .76  
161 for the depression scale.

#### 162 **Statistical treatment**

163 We used participants' self-reported affect measured by the PANAS from both Study I and 2 ( $N =$   
164 1,400) in order to classify participants in the four affective profiles. Participants' PA and NA  
165 scores were divided into high and low (*cut-off points*: low PA = 3.0 or less; high PA = 3.1 or  
166 above; low NA = 1.8 or less; and high NA = 1.9 or above).

167 For Study I, the two independent variables of the study were gender and affective profile:  
168 self-fulfilling ( $n = 241$ ; 153 males, 88 females), low affective ( $n = 236$ ; 137 males, 99 females),  
169 high affective ( $n = 180$ ; 115 males, 65 females), and self-destructive ( $n = 243$ ; 145 males, 98  
170 females). The dependent variables were PA, NA, happiness, and depression.

## 171 Results and discussion

172 A Multiple Analysis of Variance (MANOVA) indicated a significant effect for gender ( $F(4, 889)$   
173  $= 4.32; p = .002, \eta^2 = 0.02, power = 0.93$ ) as well as for affective profile ( $F(12, 2673) =$   
174  $162.19; p < .001, \eta^2 = 0.42, power = 1.00$ ). The interaction of gender and affective profile was  
175 not significant ( $p = .236$ ). A between-subjects ANOVA showed an significant gender effects for  
176 happiness ( $F(1, 892) = 7.60; p = 0.006$ ), whereby the female participants expressed a higher level  
177 of happiness ( $M = 9.66, SD = 2.13$ ) than the male participants ( $M = 9.35, SD = 2.33$ ).

178 A between-subject ANOVA indicated significant affective profile effects for PA ( $F(3, 892)$   
179  $= 513.78; p < .001$ ), NA ( $F(3, 892) = 503.58; p < .001$ ), happiness ( $F(3, 892) = 68.20; p < .001$ ),  
180 and depression ( $F(3, 892) = 71.50; p < .001$ ). A Bonferroni correction to the alpha level of .01  
181 showed that the self-destructive group had significantly higher scores in NA and depression as  
182 well as lower scores in happiness in comparison to the other affective profiles. The self-fulfilling  
183 group differed significantly from the self-destructive profiles in all measured variables; PA, NA,  
184 happiness and depression. As expected, the high affective ones differed significantly from the  
185 self-fulfilling group in all variables except PA and the low affective ones differed significantly  
186 from the self-fulfilling group in all variables except NA. Which is not so strange since both the  
187 self-fulfilling group and the high affective group are characterized as high in PA and the same  
188 goes for self-fulfilling individuals and low affective individuals who are characterized by low  
189 NA. For further details, see table 1.

190 Table 1 here

## 191 Study II

### 192 Method

#### 193 *Participants and procedure*

194 As in Study I, participants ( $N = 500$ , age  $mean = 34.08$   $sd. = 12.55$ ; 217 male and 283 female)

195 were recruited from MTurk by the following criteria: resident of the USA and to both speak and  
196 write fluent in English. Participants were paid a wage of two American dollars for completing the  
197 task and informed that the study was confidential and voluntary. The participants were presented  
198 with a battery of self-reports comprising the affect, life satisfaction, and happiness-increasing  
199 strategies measures, as well as questions pertaining age and gender.

## 200 ***Instruments***

201 The same instrument as in Study I was used in Study II to measure PA and NA (i.e., the PANAS).  
202 *Cronbach's alpha* were .88 for PA and .90 for NA in Study II.

203 *Satisfaction with Life Scale (Diener, Emmons, Larsen and Griffin, 1985)*. The instrument  
204 consists of 5 statements (e.g., "In most of my ways my life is close to my ideal") for which  
205 participants are asked to indicate degree of agreement in a 7-point Likert scale (1 = *strongly*  
206 *disagree*, 7 = *strongly agree*). The life satisfaction score was established by summarizing the 5  
207 statements for each participant. *Cronbach's alpha* were .90 in the present study.

208 *Happiness-Increasing Strategies Scales (Tkach and Lyubomirsky, 2006)*. In the present  
209 study, participants were asked to rate (1 = *never*, 7 = *all the time*) how often they used the  
210 strategies identified by Tkach and Lyubomirsky (2006). The happiness-increasing strategies are  
211 organized in eight clusters: Social Affiliation (e.g., "Support and encourage friends"; *Cronbach's*  
212 *alpha* = 0.79), Partying and Clubbing (e.g., "Drink alcohol"; *Cronbach's alpha* = 0.74), Mental Control  
213 (e.g., "Try not to think about being unhappy"; *Cronbach's alpha* = 0.43), Instrumental Goal Pursuit  
214 (e.g. "Study"; *Cronbach's alpha* = 0.76), Passive Leisure (e.g. "Surf the internet"; *Cronbach's alpha* =  
215 0.63), Active Leisure (e.g. "Exercise"; *Cronbach's alpha* = 0.65), Religion (e.g. "Seek support from  
216 faith"; *Cronbach's alpha* = 0.70), and Direct Attempts (e.g. "Act happy/smile, etc."; *Cronbach's alpha* =  
217 0.56).

## 218 ***Statistical treatment***

219 As detailed in Study I, both samples were used in the classification of the four affective profiles.

220 The number of participants in each profile for Study II were as follows: 158 self-fulfilling (75  
221 males, 83 females), 92 low affective (42 males, 50 females), 123 high affective (54 males, 69  
222 females), and 127 self-destructive (46 males, 81 females). The affective profiles and gender were  
223 the independent variables, PA, NA, life satisfaction, and the happiness-increasing strategies were  
224 the dependent variables. An important observation here is the gender distribution between  
225 profiles. For example, in Study I there were more self-destructive males than females, while in  
226 Study II there were more self-destructive females than males. This difference might mirror the  
227 gender distribution across Study I (550 males and 350 females) and Study II (217 male and 283  
228 females). Across both samples of females, the prevalence of the self-destructive profile was 28%,  
229 while among men was 25%. The prevalence of this profile reported here among males and  
230 females is the same that was observed among Swedes (Schütz, Garcia & Archer, 2013).

### 231 **Results and discussion**

232 First a MANOVA (3 x 2 factorial design) was applied with affective profiles and gender as  
233 independent variables and with PA, NA and life satisfaction as dependent variables. The analysis  
234 did not indicate any significant interaction effect ( $p = 0.14$ ), but did indicate a significant effect  
235 for gender ( $F(3, 490) = 4.91$ ;  $p < 0.01$ ,  $Eta^2 = 0.03$ ,  $power = 0.91$ ) as well as for affective profiles  
236 ( $F(9, 1476) = 119.15$ ;  $p < 0.001$ ,  $Eta^2 = 0.42$ ,  $power = 1.00$ ). Secondly, a MANOVA (1 x 2  
237 factorial design) was applied with affective profiles and gender as independent variables and with  
238 happiness-increasing strategies as dependent variables. The analysis did not indicate any  
239 significant interaction effect ( $p = 0.93$ ), but did indicate a significant effect for gender ( $F(8, 485)$   
240  $= 5.85$ ;  $p < 0.001$ ,  $Eta^2 = 0.09$ ,  $power = 1.00$ ) as well as for affective profiles ( $F(24, 1461) = 8.64$ ;  
241  $p < 0.001$ ,  $Eta^2 = 0.12$ ,  $power = 1.00$ ).

242 A between-subjects ANOVA was conducted in order to test gender differences in PA, NA  
243 and life satisfaction. The result indicated significant gender effects for: NA ( $F(1, 492) = 10.89$ ;  $p$

244 <0.01), whereby the female participants expressed a higher level of NA ( $M = 1.94$ ,  $SD = 0.83$ )  
245 than the male participants ( $M = 1.72$ ,  $SD = 0.67$ ). This specific result stands in contrast to the  
246 results from Study I, which showed that females reported higher happiness than males.  
247 Nevertheless, this is a well-known paradox in the literature—females seem to experience positive  
248 and negative emotions equally intensive, explaining why female often report both experiencing  
249 more negative moods and depressive symptoms and also higher levels of happiness than males  
250 (Fujita, Diener & Sandvik, 1991). A between-subjects ANOVA was conducted to investigate  
251 gender differences in happiness-increasing strategies. The result indicated significant gender  
252 effects for: Social Affiliation ( $F(1, 492) = 17.67$ ;  $p < 0.001$ ), whereby the female participants  
253 expressed a higher level of Social Affiliation ( $M = 3.43$ ,  $SD = 0.56$ ) than the male participants ( $M$   
254  $= 3.27$ ,  $SD = 0.65$ ); Instrumental Goal Pursuit ( $F(1, 492) = 6.60$ ;  $p < 0.01$ ), whereby the female  
255 participants expressed a higher level of Instrumental Goal Pursuit ( $M = 3.33$ ,  $SD = 0.81$ ) than the  
256 male participants ( $M = 3.19$ ,  $SD = 0.82$ ); Religion ( $F(1, 492) = 23.18$ ;  $p < 0.001$ ), whereby the  
257 female participants expressed a higher Religion ( $M = 3.08$ ,  $SD = 1.13$ ) than the male participants  
258 ( $M = 2.63$ ,  $SD = 1.04$ ); Passive Leisure ( $F(1, 492) = 9.25$ ;  $p < 0.01$ ), whereby the female  
259 participants expressed a higher level of Passive Leisure ( $M = 3.30$ ,  $SD = 0.55$ ) than the male  
260 participants ( $M = 3.16$ ,  $SD = 0.60$ ); Direct Attempts ( $F(1, 492) = 4.06$ ;  $p < 0.05$ ), whereby the  
261 female participants expressed a higher level of Direct Attempts ( $M = 3.66$ ,  $SD = 0.58$ ) than the  
262 male participants ( $M = 3.60$ ,  $SD = 0.64$ ). The differences presented here are a replication of the  
263 original study conducted by Tkach and Lyubomirsky (2006): females focus on behaviour such as  
264 maintaining relationships (i.e., Social Affiliation), pursuing career goals (i.e., Instrumental Goal  
265 Pursuit), performing religious activities (i.e., Religion), and watching TV (i.e., Passive Leisure)  
266 more frequently than males when they try to increase their happiness. As suggested by Tkach and  
267 Lyubomirsky (2006, pp. 214), the gender differences replicated here “are consistent with the

268 gender differences reported for behaviors used to combat bad moods (Thayer et al., 1994)”.

269 In order to test differences in life satisfaction for each of the four affective profiles a  
270 between-subject ANOVA was conducted. The result indicated significant effects for life  
271 satisfaction ( $F(3, 492) = 49.26; p < 0.001$ ). Further, a between-subject ANOVA was conducted in  
272 order to test differences in happiness-increasing strategies for each of the four affective profiles.  
273 The mean scores of life satisfaction as well as for happiness-increasing strategies for all four  
274 affective profiles are presented in Table 2.

275 [Table 2 here](#)

276 A Bonferroni test, with alpha level set to .01, was conducted to compare the mean  
277 differences in life satisfaction as well as for happiness-increasing strategies between affective  
278 profiles. The results showed, replicating earlier findings, among Swedes, that that the self-  
279 destructive group had lower scores in life satisfaction compared to all the other affective profiles.  
280 The self-fulfilling group had higher scores in life satisfaction compared to all the other affective  
281 profiles. Regarding happiness-increasing strategies the results showed that that the self-  
282 destructive group had lower scores in all happiness-increasing strategies except for Mental  
283 Control. For further details, see Table 3.

284 [Table 3 here](#)

### 285 **General discussion**

286 The aim of this set of studies was to examine the connections between the four types of affective  
287 profiles (self-fulfilling, high affective, low affective, self-destructive) to happiness and depression  
288 (Study I), satisfaction with life and happiness-increasing strategies (Study II) in US-residents.  
289 The results showed that the self-fulfilling group reported a significantly higher level of happiness  
290 and a significantly lower level of depression than all the three other groups (high affective, low  
291 affective, self-destructive). Furthermore, the self-destructive group reported a significantly higher

292 level of depression and lower level of happiness than all the other three groups (self-fulfilling,  
293 high and low affective). The results also show that the high affective and low affective reported  
294 higher level of happiness and lower level of depression than the self-destructive group. But at the  
295 same time these groups (high and low affective) also showed significantly lower levels of  
296 happiness and significantly higher levels depression than the self-fulfilling group. As suggested  
297 by Garcia (2011), low PA among low affectives seems to influence happiness negatively as high  
298 NA influences happiness negatively among high affectives. The results presented here are  
299 corresponding to the results found in research with Swedish populations showing that high PA is  
300 related to less stress, depression, and anxiety (e.g., Garcia et al., 2012; Lindahl & Archer, 2013;  
301 Nima, Rosenberg, Archer & Garcia, 2013). Moreover, self-fulfilling, high affective and low  
302 affective participants all have higher life satisfaction compared with self-destructive participants.  
303 This result also replicates findings among Swedish pupils where self-fulfilling, high and low  
304 affective participants showed higher level of life satisfaction compared with self-destructives  
305 (e.g., Garcia & Archer, 2012). As suggested by Lindahl and Archer (2013; see also Archer &  
306 Kostrzewa, 2013; Archer, Oscar-Berman, Blum & Gold, 2013), positive affect might serve as an  
307 anti-depressive factor and, as suggested here, also as protective factor for happiness and life  
308 satisfaction.

309         The self-fulfilling participants showed significantly higher results than all other profiles  
310 on the direct attempts strategy. Suggesting that in order to increase their happiness the self-  
311 fulfilling individuals are more prone to directly attempt to smile, get them selves in a happy  
312 mood, improve their social skills, and work on their self-control. Indeed, Garcia (2012a) showed  
313 that self-fulfilling score higher in personality traits related to agentic values (i.e., autonomy,  
314 responsibility, self-acceptance, intern locus of control, self-control) as measured by the  
315 Temperament and Character Inventory (Cloninger, Svrakic & Przybeck, 1993). Moreover, self-  
316 fulfilling individuals scored lower than high NA individuals (high affectives and self-

317 destructives) in the strategy of mental control. The mental control scale has been defined as  
318 ambivalent behavior, that is, the individual using this happiness-increasing strategy make efforts  
319 to avoid negative experiences by suppressing negative thoughts and feelings but also ruminating  
320 about negative aspects of life (Tkach and Lyubomirsky, 2006). These tendencies may not only  
321 prolong unhappiness, suppressing negative thoughts actually may end up in maintaining these  
322 thoughts and thereby aggravate negative affect (Tkach & Lyubomirsky, 2006), which may  
323 explain why these tendencies are more frequent among high affective and self-destructive than  
324 self-fulfilling individuals.

325         Compared to low PA individuals (i.e., low affectives and self-destructives), the self-  
326 fulfilling individuals also reported using more often three of the other happiness-increasing  
327 strategies: social affiliation, instrumental goal pursuit, active leisure. Social affiliations activities  
328 comprise communal (i.e., cooperation) values to guide behavior such as: supporting and  
329 encouraging friends, helping others, trying to improve one self, interacting with friends, and  
330 receiving help from friends (Tkach & Lyubomirsky, 2006). Instrumental goal pursuit includes  
331 activities directed to achieving goals by trying to reach one's full potential, studying, organizing  
332 one's life and goals, and striving for the accomplishment of tasks (Tkach & Lyubomirsky, 2006).  
333 Finally, the use of active leisure comprises a prones to wellness through fitness and flow, that is,  
334 exercising and working on hobbies or activities in which the individual uses her/his strengths and  
335 becomes absorbed by the activity itself (Tkach & Lyubomirsky, 2006). In other words, both  
336 instrumental goal pursuit and active leisure comprises agentic (i.e., autonomous, self-directed)  
337 values guiding behavior in order to approach well-being. Indeed, among Swedes (Nima et al.,  
338 2012, 2013), these three strategies (social affiliation, instrumental goal pursuit, and active leisure)  
339 have been found to be positively related to subjective well-being. Agency and cooperation are  
340 also related to mental health, dysfunction and suffering (Cloninger & Zohar, 2011; Garcia,  
341 Anckarsäter & Lundström, 2013; Garcia, Lundstroim, Brändstroim, Raåtam, Cloninger, et al.,

342 2013; Garcia, Nima & Archer, 2013) and are suggested to help the individual to become happier  
343 and healthier (Cloninger, 2013; see also Johansson Lyssarides, Andersson & Rousseau, 2013,  
344 who showed that increases in agency and cooperation are associated to improvement in  
345 depression). Moreover, compared to the self-destructives, the self-fulfilling individuals reported  
346 more frequently seeking support from faith, performing religious activities, praying, and drinking  
347 less alcohol (i.e., the religion happiness-increasing strategy). Indeed, Cloninger (2013) has  
348 suggested that while agency and cooperation might lead to happiness and health, spiritual values  
349 might be needed for becoming a self-fulfilled individual that lives in harmony with the changing  
350 world. See Figure 1 for a summary of the results.

351 Figure 1 should be here

### 352 ***Limitations and future research***

353 One limitation of the present set of studies is that the results are based on MTurk workers' self-  
354 reports. Nevertheless, consistent with earlier research suggesting MTurk as a valid tool for  
355 collecting data using personality scales (Buhrmester et al., 2011), other researchers have found  
356 that health measures using MTurk data shows satisfactory internal reliability and test-retest  
357 reliability (Shapiro, Chandler & Mueller, 2013). Furthermore, the prevalence of depression  
358 among MTurk workers matches the prevalence of this illness in the general population; which  
359 makes MTurk a valid tool even for clinical research (Shapiro et al., 2013). The measures used  
360 here are validated and reliable measures of happiness, depression, life satisfaction, and affect;  
361 however, there are other established measures that could have been used for the measurement of  
362 depression (e.g., The Patient Health Questionnaire; Kroenke, Spitzer & Williams, 2001). The  
363 Short Depression-Happiness Scale (Joseph et al., 2004), used in Study I, was found appropriate  
364 firstly because it was developed as a short easy-to-distribute scale based on the increasing  
365 awareness of the therapeutic potential of the positive psychological perspective (e.g. Cloninger,  
366 2006, Joseph & Linley, 2004; Keyes & Lopez, 2002). This scale has shown good psychometric

367 properties of internal consistency reliability (*Cronbach's alpha* between .77-92), test-retest reliability  
368 ( $r = .68$  in a 2-week interval), and convergent and discriminant validity with measures of  
369 depression (Beck's Depression Inventory), happiness (Oxford's Happiness Inventory) and  
370 personality (NEO Five Factor Inventory) (Joseph et al., 2004).

371         The lack of studies in adult populations using the affective profiles model and positive  
372 measures of well-being did not permit comparison of the results presented to other than earlier  
373 research among adolescents and young adults, thus, showing the need for further studies on  
374 adults regarding these factors. The reliability coefficients for some of the happiness-increasing  
375 strategies were low (e.g., Direct Attempts showed an *Cronbach's alpha* = .56). In studies among  
376 Swedes this scales have been modified through factor analyses (Nima et al., 2013). Although  
377 most of the scales in the present study showed alphas above .63, further studies focusing in the  
378 validation of these scales are needed. Furthermore, specific emotions vary widely across the  
379 lifespan. Findings among men and women in the US, for example, show that as people age they  
380 become less stressed and angry, although worry seems to persist as a negative emotion in peoples  
381 lives during middle age (Stone, Schwartz, Broderick & Deaton, 2010). Positive emotions such as  
382 happiness and enjoyment along with negative emotions such as sadness, however, show very  
383 limited change with age (Stone et al., 2010). Although the present study did not aim to investigate  
384 variations in specific emotions with respect to age, further studies exploring increases/decreases  
385 in PA and NA are needed.

386         Finally, since median splits distort the meaning of high and low, it is plausible to criticize  
387 the validity of the procedure used here to create the different affective profiles—scores just-above  
388 and just-below the median become high and low by fiat, not by reality (Schütz, Archer & Garcia,  
389 2013). Nevertheless, a recent study (MacDonald & Kormi-Nouri, 2013) used k-means cluster  
390 analysis to test if the affective profiles model emerged as theorized by Archer and colleagues. The

391 affective profile model was replicated using the k-means cluster analysis and the four affective  
392 profiles emerged as the combinations of high vs. low affectivity. The procedure used by these  
393 researchers is useful for person-oriented analyses (see Bergman, Magnusson et al., 2003), thus,  
394 suggesting the original procedure by Archer as valid.

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396

### 397 ***Conclusion***

398 The present set of studies expands earlier results among Swedes to a relative large sample of US-  
399 residents. The results suggest that the affective profile model distinguish important differences in  
400 happiness, depression, and life satisfaction between individuals. These differences suggest that  
401 promoting positive emotions can positively influence a depressive-to-happy state as well as  
402 increasing life satisfaction. Moreover, the present study describes further how affective profiles  
403 differ with regard to happiness-increasing strategies. These specific results suggest that the  
404 pursue of happiness through agentic, communal, and spiritual values leads to a self-fulfilling  
405 experience defined as frequently experiencing positive emotions and infrequently experiencing  
406 negative emotions.

407 *“It was right then that I started thinking about*

408 *Thomas Jefferson on the Declaration of Independence*

409 *and the part about our right to life, liberty, and*

410 *the pursuit of happiness. And I remember thinking*

411 *how did he know to put the pursuit part in there?”*

412 *Will Smith as Christopher Gardner in The Pursuit of Happyness*

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### **Legends and Captions**

**Table 1.** Mean scores in PA, NA, happiness, and depression for each affective profile in Study I.

**Table 2.** Means in life satisfaction and happiness-increasing strategies among affective profiles in Study II.

**Table 3.** Mean differences in life satisfaction and happiness-increasing strategies between affective profiles.

**Figure 1.** Summary of the results from Study I and II showing the differences between affective profiles in happiness, depression, life satisfaction, and the happiness-increasing strategies.

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**Table 1** (on next page)

Table 1

Mean scores in PA, NA, happiness, and depression for each affective profile in Study I.

1 **Table 1.** Mean scores in PA, NA, happiness and depression for each affective profile in Study I.

	Self-fulfilling <i>n</i> = 241	High affective <i>n</i> = 180	Low affective <i>n</i> = 236	Self-destructive <i>n</i> = 243
Positive Affect	3.66 ± 0.44 <sup>c, d</sup>	3.59 ± 0.41 <sup>c, d</sup>	2.37 ± 0.52 <sup>a, b</sup>	2.36 ± 0.50 <sup>a, b</sup>
Negative Affect	1.27 ± 0.21 <sup>b, d</sup>	2.20 ± 0.51 <sup>a, d</sup>	1.24 ± 0.21 <sup>b, d</sup>	2.45 ± 0.61 <sup>a, b, c</sup>
Happiness	10.65 ± 1.77 <sup>b, c, d</sup>	10.02 ± 1.94 <sup>a, c, d</sup>	9.37 ± 2.22 <sup>a, b, d</sup>	7.99 ± 2.12 <sup>a, b, c</sup>
Depression	4.80 ± 1.75 <sup>b, c, d</sup>	5.92 ± 1.85 <sup>a, d</sup>	5.75 ± 2.21 <sup>a, d</sup>	7.57 ± 2.35 <sup>a, b, c</sup>

- 2 Values represent mean scores ± SD. *p* < 0.01, Bonferroni test: <sup>a</sup> compared to self-fulfilling; <sup>b</sup> compared to the high  
 3 affective; <sup>c</sup> compared to the low affective; <sup>d</sup> compared to the self-destructive.

**Table 2**(on next page)

Table 2

Means in life satisfaction and happiness-increasing strategies among affective profiles in Study II.

- 1 **Table 2.** Means in life satisfaction and happiness-increasing strategies among affective profiles in
- 2 Study II.

	Self-fulfilling	High affective	Low affective	Self-destructive
	N = 158	N = 123	N = 92	N = 127
Positive Affect	3.76 ± 0.49	3.59 ± 0.42	2.44 ± 0.52	2.30 ± 0.51
Negative Affect	1.25 ± 0.21	2.37 ± 0.58	1.20 ± 0.21	2.53 ± 0.67
Life satisfaction	5.17 ± 1.24	4.11 ± 1.32	4.42 ± 1.51	3.15 ± 1.49
Social Affiliation	3.56 ± 0.53	3.51 ± 0.42	3.28 ± 0.63	3.02 ± 0.67
Partying and Clubbing	2.12 ± 0.71	2.29 ± 0.75	2.18 ± 0.67	2.00 ± 0.64
Mental Control	2.12 ± 0.47	2.43 ± 0.50	2.20 ± 0.42	2.59 ± 0.49
Instrumental Goal Pursuit	3.47 ± 0.77	3.51 ± 0.67	3.07 ± 0.85	2.92 ± 0.83
Religion	3.11 ± 1.19	2.94 ± 1.04	2.88 ± 1.11	2.57 ± 1.02
Passive Leisure	3.22 ± 0.56	3.38 ± 0.51	3.17 ± 0.60	3.17 ± 0.63
Active Leisure	3.39 ± 0.54	3.28 ± 0.55	3.10 ± 0.65	2.90 ± 0.65
Direct Attempts	3.91 ± 0.50	3.68 ± 0.49	3.60 ± 0.60	3.27 ± 0.64

**Table 3**(on next page)

Table 3

Mean differences in life satisfaction and happiness-increasing strategies between affective profiles.

1 **Table 3.** Mean differences, in life satisfaction and happiness-increasing strategies between  
 2 affective temperaments.

Affective profiles	Self-fulfilling N = 158	High affective N = 123	Low affective N = 92	Self-destructive N = 127
<i>Self-fulfilling</i>				
Positive Affect		0.17*	1.32*	1.46*
Negative Affect		-1.12*	0.05 <i>ns</i>	-1.28*
Life satisfaction		1.05*	0.75*	2.01*
Social Affiliation		0.05 <i>ns</i>	0.28*	0.54*
Partying and Clubbing		-0.16 <i>ns</i>	-0.06 <i>ns</i>	0.12 <i>ns</i>
Mental Control		-0.31*	-0.09 <i>ns</i>	-0.47*
Instrumental Goal Pursuit		-0.04 <i>ns</i>	0.39*	0.54*
Religion		0.17 <i>ns</i>	0.23 <i>ns</i>	0.54*
Passive Leisure		-0.16 <i>ns</i>	0.05 <i>ns</i>	0.05 <i>ns</i>
Active Leisure		0.11 <i>ns</i>	0.29*	0.49*
Direct Attempts		0.24*	0.31*	0.64*
<i>High affective</i>				
Positive Affect	-0.17*		1.15*	1.29*
Negative Affect	1.11*		-1.17*	-0.16 <i>ns</i>
Life satisfaction	-1.05*		-0.31 <i>ns</i>	0.96*
Social Affiliation	-0.05 <i>ns</i>		0.24 <i>ns</i>	0.50*
Partying and Clubbing	0.16 <i>ns</i>		0.11 <i>ns</i>	0.29*
Mental Control	0.31*		0.23*	-0.16 <i>ns</i>
Instrumental Goal Pursuit	0.04 <i>ns</i>		0.43*	0.58*
Religion	-0.17 <i>ns</i>		0.05 <i>ns</i>	0.36 <i>ns</i>
Passive Leisure	0.16 <i>ns</i>		0.21 <i>ns</i>	0.20 <i>ns</i>
Active Leisure	-0.11 <i>ns</i>		0.18 <i>ns</i>	0.38*
Direct Attempts	-0.23*		0.07 <i>ns</i>	0.40 <i>ns</i>
<i>Low affective</i>				
Positive Affect	-1.32*	-1.15*		0.14 <i>ns</i>
Negative Affect	-0.05	-1.17*		-1.32*

Life satisfaction		-0.75*	0.31 $ns$		1.26*
Social Affiliation		-0.28*	-0.24 $ns$		0.26*
Partying and Clubbing		0.06 $ns$	-0.11 $ns$		0.18 $ns$
Mental Control		0.09 $ns$	-0.23*		-0.40*
Instrumental	Goal	-0.39*	-0.43*		0.15 $ns$
Pursuit					
Religion		-0.23 $ns$	-0.05 $ns$		0.31 $ns$
Passive Leisure		-0.05 $ns$	-0.21 $ns$		-0.00 $ns$
Active Leisure		-0.29*	-0.18 $ns$		0.20 $ns$
Direct Attempts		-0.31*	-0.07 $ns$		0.33*
<u>Self-destructive</u>					
Positive Affect		-1.46*	-1.29*	-0.14*	
Negative Affect		1.28*	0.16 $ns$	1.33*	
Life satisfaction		-2.01*	-0.96*	-1.26*	
Social Affiliation		-0.54*	-0.50*	-0.26*	
Partying and Clubbing		-0.12 $ns$	-0.29*	-0.18 $ns$	
Mental Control		0.47*	0.16 $ns$	0.39*	
Instrumental	Goal	-0.54*	-0.58*	-0.15 $ns$	
Pursuit					
Religion		-0.54*	-0.36 $ns$	-0.31 $ns$	
Passive Leisure		-0.05 $ns$	-0.20 $ns$	0.00 $ns$	
Active Leisure		-0.49*	-0.38*	-0.20 $ns$	
Direct Attempts		-0.64*	-0.40*	-0.33*	

3  $ns$  = non significant, \*  $p < 0.01$  with Bonferroni Correction.

# Figure 1

Figure 1

Summary of the results from Study I and II showing the differences between affective profiles in happiness, depression, life satisfaction, and the happiness-increasing strategies.

