

# Adolescents' happiness-increasing strategies, temperament, and character: Mediation models on subjective well-being

Ali Al Nima<sup>1</sup>, Trevor Archer<sup>1</sup>, Danilo Garcia<sup>2,3\*</sup>

<sup>1</sup>Department of Psychology, University of Gothenburg, Gothenburg, Sweden

<sup>2</sup>Centre for Ethics, Law and Mental Health (CELAM), University of Gothenburg, Gothenburg, Sweden;

\*Corresponding Author: [danilo.garcia@neuro.gu.se](mailto:danilo.garcia@neuro.gu.se), [danilo.garcia@euromail.se](mailto:danilo.garcia@euromail.se)

<sup>3</sup>Institute of Neuroscience and Physiology, The Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden

Received 5 September 2012; revised 2 October 2012; accepted 12 October 2012

## ABSTRACT

In order to predict Subjective Well-Being (SWB) or happiness two of the major determinants may be 1) A genetic set point (which reflects personality) and 2) Current intentional activities (behavioral, cognitive, and motivational). In this context, personality can be considered as psychological—composed of temperament (*i.e.*, what grabs our attention and how intensely we react) and character (*i.e.*, a reflection of personal goals and values). The present study examined how adolescents' personality and intentional happiness-increasing strategies, measured at one point in time, are related to SWB measured one year later. Results show that temperament (Harm Avoidance) and character dimensions (Self-directedness) predicted SWB. Moreover, strategies such as active leisure (e.g., engaging in sports) and instrumental goal pursuit (e.g., study) also predicted SWB at the end of the school year. The strategy of Mental Control (*i.e.*, an ambivalent effort to both avoid and contemplate negative thoughts and feelings), which was related to Harm Avoidance and Self-Directedness, mediated the relationship between these two personality dimensions and SWB.

**Keywords:** Adolescents; Character; Happiness; Happiness-Increasing Strategies; Subjective Well-Being; TCI; Temperament

## 1. INTRODUCTION

Most parents and teachers want their children and pupils to be happy through life. Whether it is by showing them unconditional love or making them interested in history, mathematics, sports, and art, the purpose is always

the same [1]. Happiness by itself may appear to be an attractive goal; nonetheless adolescents that experience high levels of happiness show less emotional and behavioural problems [2]. Hence, happiness is probably more like a journey than a destination.

To accomplish this task the parent, the teacher and the adolescent herself may ask which activities may influence happiness. However, what the parent or teacher may call a good strategy in the pursuit of happiness may not be the same as the ones their children and pupils practice. For example, some adolescents might engage in behaviors such as surfing the internet, exercising or drinking alcohol in an attempt to become happier. To investigate which strategies adolescents use pursuing happiness is important because engaging in certain type of behaviors may actually lower their level of happiness [3].

## 2. SUBJECTIVE WELL-BEING AS A MEASURE OF HAPPINESS

In the field of Positive Psychology, well-being research complements measures of physical (e.g. health) and material (e.g. income) well-being with assessments of optimal psychological experience [4] by focusing in people's own judgements and experiences of pleasure versus displeasure. The assessment of this hedonic experience involves individuals' own judgements about life satisfaction (LS), the frequency of positive affect (PA) and the infrequency of negative affect (NA) [5]. The three constructs are summarized as Subjective Well-Being or happiness (SWB) [6]. According to Martin and Huebner [7], the multidimensional model of SWB (*i.e.*, LS, PA, and NA) is valid for adolescents as well. Thus, a happy adolescent can be assumed to be satisfied with life and to experience more positive than negative affect.

### Personality and Happiness

Individuals are expected to have different but stable

levels of happiness that depend mainly on their personality [8]. The relationship of personality to happiness has been investigated among adolescents and shows similar results [9-15]. Personality appears to be a key element because it is related to reactivity to emotional stimuli, individual differences in intensity to responses to emotional events, and to the duration of emotional reactions [16,17]. These findings mentioned here may discourage the parents and teachers who strive for helping adolescents to become happier, as well as the pursuing adolescents themselves. One could conclude that only certain stable personality traits might predict happiness.

However, personality can be described as a psychobiological construct, composed of temperament (*i.e.*, what grabs our attention and how intensely we react) and character (*i.e.*, a reflection of personal goals and values) [18,19]. Although the concept of character holds a major position in psychology [20,21], most research on adults and adolescents' happiness has focused on traits models of personality (e.g., the five-factor model [22]). Recent research, however, has shown that character maturity expressed in behaviours such as self-control, autonomy, self-acceptance, and social tolerance is positively related to adolescents' happiness even when traits such as Neuroticism and Extraversion are controlled for [10,11,23].

### 3. THE PSYCHOBIOLOGICAL MODEL OF PERSONALITY

Cloninger's psychobiological model [18] is based in findings from neuroanatomy and neurophysiology as well as developmental and clinical psychology and psychiatry. Differences in the major brain systems for procedural versus propositional learning suggest a distinction between four dimensions of temperament and three dimensions of character [19]. According to Cloninger [19], temperament reflects the basic organization of independently different brain systems for the activation, maintenance and inhibition of behavior in response to stimuli. The four temperament dimensions are defined in terms of individual differences in behavioral learning mechanisms, explaining responses to signals of punishment or non-reward (Harm Avoidance), novelty and signals of reward or relief of punishment (Novelty Seeking), maintained response to previously rewarded behaviour without continued reinforcement (Reward Dependence), and Persistence (previously a subscale of Reward Dependence).

In contrast, character involves individual differences in self-concepts about goals and values [19]. Character seems to form the individual's thoughts in three dimensions regardless of how our temperament leads us to react to different experiences: Self-directedness (based on the concept of the self as an autonomous individual) allows the individual to engage in purposeful actions be-

cause the individual has a "sense of following a meaningful direction in one's life" ([19] p. 120), Cooperativeness (based on the concept of the self as an integral part of humanity or society) allows the individual to be broad-minded and flexible about choices regarding goals and values because thought and behaviour are based on interest centred in other persons, and Self-transcendence (based on the concept of the self as an integral part of the universe and its source) allows the individual to intuitively recognize the beauty and meaning in experiences and own emotions as well.

Nonetheless, the relationship between personality and happiness may be a function of the strategies being used intentionally [24]. For example, extroverted adolescents may choose to spend time with peers, which in turn can boost their happiness levels. In addition, in contrast to circumstances in life (e.g., the place you live in), intentional activities or strategies (e.g., exercising regularly) may influence happiness' levels [24].

### 4. HAPPINESS-INCREASING STRATEGIES

In order to intentionally pursue happiness people seems to use different strategies. Tkach and Lyubomirsky [24] have identified, using first an open-ended survey, 66 happiness-enhancing strategies used by undergraduate students. Through factor analysis eight factors were found: Social Affiliation (e.g. "Support and encourage friends"), Partying and Clubbing (e.g. "Drink alcohol"), Mental Control (e.g. "Try not to think about being unhappy"), Instrumental Goal Pursuit (e.g. "Study"), Passive Leisure (e.g. "Surf the internet"), Active Leisure (e.g. "Exercise"), Religion (e.g. "Seek support from faith") and Direct Attempts (e.g. "Act happy/smile, etc.").

These happiness-increasing strategies accounted for 52%, while the Big Five personality traits for 46% of the variance in happiness. Moreover, even after controlling for the contribution of personality, happiness strategies accounted for 16%. However, the strategies' relations to happiness varied to a great extent. For example, extraverts are more likely to use the strategy of Social Affiliation than are introverts. But the relation between extraversion and happiness seems not to be a direct one: extraversion is related to the use of the Social Affiliation strategy, which, in turn, is related to happiness. Tkach and Lyubomirsky [24] suggested that the efficacy of the strategies is also likely to diverge. The strategy that was the most robust predictor of happiness, however, was Mental Control. This strategy is defined as ambivalent intentional efforts aimed, on the one hand, at avoidance of negative thoughts and feelings and, on the other hand, proneness towards contemplation of negative aspects of life.

Nevertheless, besides Tkach and Lyubomirsky's original work, no other study has investigated the relationship between these happiness-increasing strategies and SWB. With respect to adolescents it is important to mention that, although major life events (e.g., parent getting remarried) influence adolescents' happiness, daily problems (e.g., coping with a minor social conflict) seem to be equally stressful experiences [25]. Hence, adolescence makes a compelling period of life in which to study the happiness-increasing strategies framework.

## 5. THE PRESENT STUDY

The present study examines how adolescents' personality (*i.e.*, temperament and character) and happiness-increasing strategies reported at the beginning of the school year are related to happiness reported at the end of the school year. Moreover, personality, the strategies, and happiness are subjected to a mediation analysis [26]. We suggest that the effect of personality on happiness is mediated by the happiness-increasing strategies.

The present study aims to offer a more explicit picture of the role of personality (temperament and character) in adolescents' happiness, which strategies they may use and which strategies may work better and probably mediate the relation between personality and happiness.

## 6. METHOD

### 6.1. Participants

Pupils at a high school in the south of Sweden participated in the study. The whole population ( $N = 109$ ) was contacted and 89 agreed to participate in the first part of the study. The sample was composed of 31 boys and 58 females with an age mean of 16.56 years ( $SD = 0.92$ ). At the second part of the study, one year later, a total of 79 pupils participated.

### 6.2. Procedure

The adolescents in the present study had consent from their teachers to participate. At a parent meeting, all parents were informed of the present and other studies being conducted among adolescents at the school. The nature of the studies was explained (e.g., instruments, confidentiality) and questions were addressed at the same meeting. Pupils were told that their involvement was voluntary and that the study was divided in two parts over a year and had to do with how high school pupils think about their lives and in different situations. In the first part, participants were presented with the instruments that measured personality and happiness-increasing strategies. In the second part, participants were presented with the happiness measures. Each participant received one cinema ticket for their collaboration in each part of the study.

## 6.3. Measures

### 6.3.1. Personality

The Temperament and Character Inventory (TCI) [18] measures the seven dimensions of Cloninger's psychobiological model of personality with a total of 238-items with forced binary answer (*yes* or *no*). In the present study we used the Swedish version of the TCI validated by Brändström and colleagues [27,28].

The four temperament factors are Novelty Seeking (e.g., "I often try new things just for fun or thrills, even if most people think it is a waste of time"; Cronbach's  $\alpha = 0.70$ ), Harm Avoidance (e.g., "I often feel tense and worried in unfamiliar situations, even when others feel there is little to worry about"; Cronbach's  $\alpha = 0.69$ ), Reward Dependence (e.g., "I like to discuss my experiences and feelings openly with friends instead of keeping them to myself"; Cronbach's  $\alpha = 0.69$ ), and Persistence (e.g., "I often push myself to the point of exhaustion or try to do more than I really can"; Cronbach's  $\alpha = 0.70$ ).

The three character factors are Self-directedness ("In most situations my natural responses are based on good habits that I have developed"; Cronbach's  $\alpha = 0.71$ ), Cooperativeness (e.g., "I often consider another person's feelings as much as my own"; Cronbach's  $\alpha = 0.72$ ), and Self-transcendence ("I sometimes feel so connected to nature that everything seems to be part of one living organism"; Cronbach's  $\alpha = 0.69$ ).

### 6.3.2. Happiness

The Satisfaction with Life Scale (SWLS) [29] was used to measure LS and consists of 5 statements (e.g., "In most ways my life is close to my ideal"). Participants indicated grade of agreement to each of the 5 items (1 = *strongly disagree*, 7 = *strongly agree*). The LS score was established by summarizing the 5 statements for each participant (Cronbach's  $\alpha = 0.83$ ). The Swedish version of the SWLS has been used both among adults and adolescents [30,31].

The Positive Affect and Negative Affect Schedule (PANAS) [32] was used to measure PA and NA. Participants are instructed to rate to what extent they generally have experienced 20 different feelings or emotions (10 PA and 10 NA) for the last weeks (1 = *very slightly*, 5 = *extremely*). The 10-item PA scale includes adjectives such as strong, proud, and interested (Cronbach's  $\alpha = 0.85$ ). The 10-item NA scale includes adjectives such as afraid, ashamed, and nervous (Cronbach's  $\alpha = 0.78$ ). The Swedish version of the PANAS has been extensively used among adolescents [33,34].

A SWB score was computed by subtracting participants NA-score from their PA-score and then adding the LS. This procedure has been recommended and used in many past studies among adults and adolescents [10,35,36].

### 6.3.3. Happiness-Increasing Strategies

In the present study, participants were asked to rate (1 = *never*, 7 = *all the time*) how often they used the strategies identified by Tkach and Lyubomirsky [24]. The happiness-increasing strategies are organized in eight clusters: Social Affiliation (e.g., “Support and encourage friends”; Cronbach’s  $\alpha = 0.72$ ), Partying and Clubbing (e.g., “Drink alcohol”; Cronbach’s  $\alpha = 0.69$ ), Mental Control (e.g., “Try not to think about being unhappy”; Cronbach’s  $\alpha = 0.64$ ), Instrumental Goal Pursuit (e.g., “Study”; Cronbach’s  $\alpha = 0.79$ ), Passive Leisure (e.g., “Surf the internet”; Cronbach’s  $\alpha = 0.59$ ), Active Leisure (e.g., “Exercise”; Cronbach’s  $\alpha = 0.61$ ), Religion (e.g., “Seek support from faith”; Cronbach’s  $\alpha = 0.55$ ), and Direct Attempts (e.g., “Act happy/smile, etc.”; Cronbach’s  $\alpha = 0.39$ ). As a complement, participants were also instructed to write down other strategies that they use in order to increase their happiness levels. Nevertheless, only variations of the strategies found by Tkach and Lyubomirsky were reported (e.g., study hard, see a Jim Carrey movie). The Swedish version of the scales has been validated in an earlier study [37].

## 7. RESULTS

### 7.1. Correlation and Regression Analyses

**Table 1** shows the correlations between personality and SWB. An MRA was conducted in order to test the per-

sonality variables that predicted SWB. A significant model emerged for SWB ( $F(1, 108) = 34.83, p < 0.001$ , Adjusted  $R^2 = 0.34$ ). As in Garcia’s study [10] Harm Avoidance ( $\beta = -0.47, p < 0.001$ ) and Self-directedness ( $\beta = 0.23, p < 0.01$ ) were the significant predictors of SWB.

Moreover, age and gender did not predict SWB. Furthermore, the strategies of Mental Control, Direct Attempts, and Active Leisure were related to SWB. These results map the results presented by Tkach and Lyubomirsky’s [24]. In contrast, Instrumental Goal Pursuit was moderately related to SWB and to Persistence (See **Tables 2** and **3**).

### 7.2. Mediation Analyses

The mediation analysis was conducted using procedures recommended by Baron and Kenny [26]. The only personality variables to be related to SWB (outcome variable) were Harm Avoidance and Self-directedness (see **Table 1**), therefore the only ones that could be used as the independent variables in the mediation analyses. The strategies related to Harm Avoidance (independent variable) and SWB (outcome variable) were: Mental Control, Active Leisure, and Direct Attempts (see **Tables 2** and **3**). Therefore, those strategies were the ones used as mediators in the relationship Harm Avoidance-SWB [26]. The strategies related to Self-directedness (independent variable) and SWB (outcome variable) were: Mental Control and Direct Attempts (see **Tables 2** and **3**).

**Table 1.** Pearson correlations for personality dimensions and happiness (SWB).

	1	2	3	4	5	6	7
Novelty Seeking (1)	-						
Harm Avoidance (2)	0.27***	-					
Reward Dependence (3)	0.66***	0.46***	-				
Persistence (4)	0.27***	0.22**	0.41***	-			
Self-Directedness (5)	0.58***	0.06 ns	0.61***	0.50***	-		
Cooperativeness (6)	0.67***	0.41***	0.83***	0.50***	0.74***	-	
Self-Transcendence (7)	0.62***	0.38***	0.59***	0.32***	0.36***	0.61***	-
SWB	0.03 ns	-0.57***	-0.17 ns	0.13 ns	0.49***	0.03 ns	-0.01 ns

Note: ns = nonsignificant; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

**Table 2.** Pearson correlations for happiness-increasing strategies and happiness (SWB).

	1	2	3	4	5	6	7	8
Social Affiliation (1)	-							
Partying and Clubbing (2)	-0.05 ns	-						
Mental Control (3)	0.08 ns	-0.06 ns	-					
Instrumental Goal Pursuit (4)	0.43***	0.01 ns	0.01 ns	-				
Passive Leisure (5)	0.41***	0.12 ns	-0.13 ns	0.15 ns	-			
Active Leisure (6)	0.37***	-0.08 ns	-0.05 ns	0.49**	0.33***	-		
Religion (7)	0.01 ns	-0.48***	0.01 ns	-0.06 ns	-0.08 ns	0.08 ns	-	
Direct Attempts (8)	0.23 ns	0.06 ns	-0.19 ns	0.31**	-0.02 ns	0.37***	0.01 ns	-
SWB	0.11 ns	-0.02 ns	-0.57***	0.25**	0.02 ns	0.35***	0.02 ns	0.31**

Note: ns = nonsignificant; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .



**Table 3.** Pearson correlations for personality dimensions and happiness-increasing strategies.

	Novelty Seeking	Harm Avoidance	Reward Dependence	Persistence	Self-Directedness	Cooperativeness	Self-Transcendence
Social Affiliation	0.12 ns	0.11 ns	0.20 ns	0.20 ns	0.10 ns	0.29**	0.34***
Partying and Clubbing	0.32**	0.03 ns	0.09 ns	-0.23 ns	-0.12 ns	-0.13 ns	-0.08 ns
Mental Control	-0.19 ns	0.52***	0.04 ns	-0.03 ns	-0.49***	-0.05 ns	0.06 ns
Instrumental Goal Pursuit	-0.17 ns	-0.07 ns	-0.01 ns	0.52***	0.18 ns	0.09 ns	-0.04 ns
Passive Leisure	0.16 ns	0.15 ns	-0.06 ns	0.05 ns	-0.16 ns	-0.07 ns	0.27**
Active Leisure	-0.12 ns	-0.32**	-0.23 ns	0.21 ns	0.19 ns	0.01 ns	0.09 ns
Religion	-0.17 ns	0.03 ns	0.08 ns	0.05 ns	0.18 ns	0.29**	0.24 ns
Direct Attempts	0.13 ns	-0.30*	-0.13 ns	-0.05 ns	0.31**	0.11 ns	-0.15 ns

Note: ns = nonsignificant; \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

Hence, those strategies were the only ones used as mediators in the relationship Self-directedness-SWB. For simplicity reasons only two of the five analyses conducted to test for a mediation effect of the strategies in the relationship between personality and SWB are described next. The two analyses described below were for instance the only that found strategies as significant mediators.

A series of three equations were conducted for the strategy of Mental Control. First, Mental Control was regressed on Harm Avoidance. Harm Avoidance contributed a significant amount of variance to the strategy of Mental Control (26%). Second, SWB was regressed on Harm Avoidance; Harm Avoidance accounted for 32% of the variance in SWB. Finally, SWB was simultaneously regressed on both Harm Avoidance and Mental Control. The same procedure was executed two times using Harm Avoidance as the independent variable, SWB as the outcome variable, and Active Leisure and Direct Attempts, respectively, as the mediators. The model including Mental Control accounted for 40% of the variance in SWB, the model including Active Leisure accounted for 33% and the model including Direct Attempts for 33%. Comparisons between the beta weights in the second and third equations were undertaken to contrast the beta weights for Harm Avoidance alone with the beta weights when the strategies were included. The resulting beta weights for Harm Avoidance were reduced when Mental Control was included.

Similarly, the series of three equations were executed two separate times using Self-directedness as the independent variable, SWB as the outcome variable and Mental Control and Direct Attempts, respectively, as the mediators. For example, Mental Control was regressed on Self-directedness. Self-directedness contributed a significant amount of variance to the strategy of Mental Control (23%). Second, SWB was regressed on Self-directedness; Self-directedness accounted for 23% of the variance in SWB. Finally, SWB was simultaneously regressed on both Self-directedness and Mental Control.

The model including Mental Control accounted for 36% of the variance in SWB while the model including Direct Attempts for 24% of the variance in SWB. Comparisons were conducted for Self-directedness alone and when the strategies were included. The resulting beta weights for Self-directedness were reduced when Mental Control was included (see **Figures 1** and **2** for significant models of mediation).

These reductions suggest that Mental Control serves to partially mediate the relationship between Harm Avoidance and SWB as well as the relationship between Self-directedness and SWB. Specifically, with respect to the relation Harm Avoidance-SWB the inclusion of Mental Control as a mediator yielded a *Sobel Z-value* = -2.63 ( $p < 0.001$ ). The indirect (-0.19) and total effects (-0.57) of Mental Control in this model suggest a mediation of 33%. With respect to the relation Self-directedness-SWB the inclusion of Mental Control as a mediator yielded a *Sobel Z-value* = 2.79 ( $p < 0.001$ ). The indirect (0.21) and total effects (0.49) of Mental Control in this model suggest a mediation of 43%.

## 8. DISCUSSION

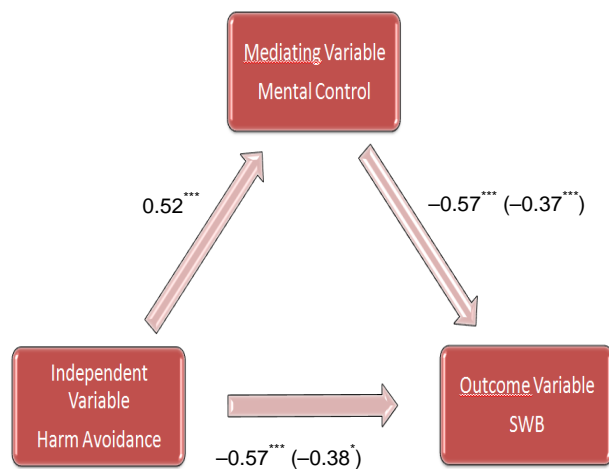
The present study examined how adolescents' temperament and character are related to their happiness and happiness-increasing strategies. As expected, Harm Avoidance and Self-directedness predicted SWB measured one year later. Thus, adolescents prone to react with pessimism and anguish to events showed lower levels of SWB. In contrast, adolescents with an autonomous self-concept showed high levels of SWB. Certainly, individuals that visualize best possible selves (e.g., think about succeeding in life goals) show higher levels of positive affect than those that focus on paying more attention to the ordinary details in their lives [38]. Moreover, these results map on and expand the findings by others [39-42].

The strategy of Mental Control was the only happiness-increasing strategy to be related to Self-directedness

and to significantly mediate the relationship between Harm Avoidance-SWB, and Self-directedness-SWB. Indeed, this specific strategy is an ambivalent type of behaviour—on the one hand efforts are made to avoid negative experiences by suppressing negative thoughts and feelings, while on the other hand the individual ruminates about negative aspects of life. This type of behaviour is the reverse of a happy individual who could be described as being low in Harm Avoidance and high in Self-directedness (see **Table 4**). As in Tkach and Lyubomirsky's [24] study, the results indicate that Mental Control, Direct Attempts, and Active Leisure are positively related to adolescent's happiness. However, as for adults [24], Mental Control was positively related to temperament (*i.e.*, Harm Avoidance in the present study and Neuroticism in Tkach & Lyubomirsky's study). In contrast, adolescents' Self-directedness was negatively correlated to Mental Control. Thus, it remains unclear if

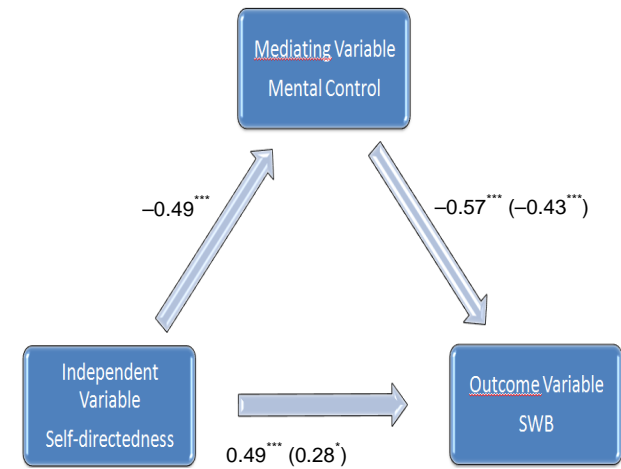
Self-directedness congruent strategies may lead to increases in happiness.

Nevertheless, adolescents that are self-directed develop good habits and automatically behave in accord with their long-term values and goals, probably as a consequence of self-discipline. Indeed, the strategy of Instrumental Goal Pursuit was the other strategy that was related to SWB. Hence, adolescents that strive after goals (*i.e.*, full potential, raise grades) might be successful in increasing their levels of happiness. This strategy was positively related to Persistence. Although in the present study Persistence failed to predict SWB, other studies among adolescents [10,11,36,39] have found a significant positive relation between persistence and adolescents' experience of PA. Adolescents high in Persistence are expected to be hard-working, and stable despite frustration and fatigue. They are also expected to increase their efforts in response to anticipated reward [18]. In



Note: \* $p < 0.05$ ; \*\*\* $p < 0.001$ .

**Figure 1.** Model of the mediating role of the strategy of mental control in the relationship between harm avoidance and SWB. Mental control: see definition in Section 4. Values in parentheses is the reduced correlation coefficient when the mediator is present.



Note: \* $p < 0.05$ ; \*\*\* $p < 0.001$ .

**Figure 2.** Model of the mediating role of the strategy of mental control in the relationship between self-directedness and SWB. Mental control: see definition in Section 4. Values in parentheses is the reduced correlation coefficient when the mediator is present.

**Table 4.** Showing the items comprising the happiness-increasing strategy of Mental Health and descriptions of high and low scorers in the high avoidance and self-directedness dimensions (adapted from [43]. Reproduced with Permission of C. R. Cloninger).

Mental Control	Harm Avoidance		Self-Directedness	
	low	high	low	high
<ul style="list-style-type: none"> <li>• Try not to think about being unhappy.</li> <li>• Think about what is wrong with life.</li> <li>• Try to look at the positive but fail.</li> <li>• Focus out negative aspects of life.</li> <li>• Take life as it is—be content (R).</li> <li>• Cultivate a bright outlook (R).</li> <li>• Go to the movies alone.</li> <li>• Take illegal drugs.</li> </ul>	relaxed and optimistic; bold and confident; outgoing; vigorous  HAPPY	worrying and pessimistic; fearful and doubtful; shy; fatigable  UNHAPPY	immature and fragile; blaming and unreliable; purposeless; inert and ineffective; self-striving  UNHAPPY	mature and strong; responsible and reliable; purposeful; resourceful and effective; self-accepted  HAPPY

Note: (R) = Reversed item; positive relationships between mental control and each personality dimension (high vs. low) in blue fields and negative relationships in yellow fields.

other words, frustration and fatigue may be perceived as a personal challenge, they do not give up easily and are probably willing to make major sacrifices to be successful (e.g., good grades). It is therefore plausible to argue that Persistence should be linked to long term happiness [39,44].

Another important point of discussion is the fact that, in contrast to Tkach and Lyubomirsky [24], Social Affiliation was not related to SWB. In other words, spending time with peers seems not to increase happiness. At a first glance, this finding may seem contradictory. However, spending time with friends probably is both happiness-increasing and decreasing, at least for adolescents. Peers may influence them to use strategies that in the long run are negative to SWB or contradictory to their self-concept. For instance research has showed that adolescents have a tendency to act in ways that are not congruent to their own self-conceptions [45]. False self behaviour may lead to negative emotional outcomes if the adolescents engage in such action because they devalue their "true self". Nevertheless, the findings presented here show a positive relation between Social affiliation and two of the three characters, namely Cooperativeness and Self-transcendence. Implying that in adolescence the strategy of Social Affiliation is associated with pro-social behaviour in the service of others in ways that might transcend the self.

### Limitation and Remaining Questions

The present study was based on self-reports and covers only a single year. It is plausible to suggest that studies among children should supply important findings that can be of use in the study of adolescent's happiness. Mainly, because predictors of behavioral problems that persist from adolescence to adulthood (e.g., conduct problems) are best assessed prior to adolescence [46]; perhaps the same logic can be applied to character development and strategies that persist from adolescence to adulthood and are successful in the pursuit of happiness.

Moreover, adolescents' conception of the self may vary across contexts [47]. Thus, self-reports of strategies used may vary if the study is conducted at home, at school, or at a sport facility. For instance, the strategy of Instrumental Goal Pursuit (e.g., study) probably played an important role in adolescents' happiness because the present study was conducted at school.

## 9. CONCLUSIONS

In order to increase happiness and well-being, we need to look at the part of personality that mediates or modifies the meaning of what is experienced and probably changes emotional reactions and habits. Parents, teachers, and adolescents should strive for the cultivation of char-

acter strengths in order to achieve long-term happiness. What is more, positive self-concepts might increase the individual's sense of unity and purpose [19,48]. Striving to function positively, adolescents that feel good about themselves should be aware of their own limitations and try to shape their environment so as to meet personal strengths. Strategies related to character, such as cultivating a bright outlook, and approaching undesirable situation with self-acceptance (*i.e.*, the opposite of Mental Control strategies) should serve as a guide in the pursuit of happiness.

Finally, strategies that sacrifice possible instant reward (e.g., attempt to achieve full potential, organize life and goals) should also be encouraged, at least in the context of adolescents.

*"However beautiful the strategy, you should occasionally look at the results."*

Winston Churchill.

## 10. ACKNOWLEDGEMENTS

This article was developed thanks to funding from Stiftelsen Kempe-Carlgrenska Fonden.

## REFERENCES

- [1] Garcia, D. and Siddiqui, A. (2009) Adolescents' affective temperaments: Life satisfaction, interpretation and memory of events. *The Journal of Positive Psychology*, **4**, 155-167. [doi:10.1080/17439760802399349](https://doi.org/10.1080/17439760802399349)
- [2] Suldo, S.M. and Huebner, E.S. (2006) Is extremely high life satisfaction during adolescence advantageous? *Social Indicators Research*, **78**, 179-203. [doi:10.1007/s11205-005-8208-2](https://doi.org/10.1007/s11205-005-8208-2)
- [3] Valois, R.F., Paxton, R.J., Zullig, K.J. and Huebner, E.S. (2006) Life satisfaction and violent behaviors among middle school students. *Journal of Child and Family Studies*, **15**, 695-707. [doi:10.1007/s10826-006-9043-z](https://doi.org/10.1007/s10826-006-9043-z)
- [4] Ryan, R.M. and Deci, E.L. (2001) On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, **52**, 141-166. [doi:10.1146/annurev.psych.52.1.141](https://doi.org/10.1146/annurev.psych.52.1.141)
- [5] Pavot, W. (2008) The assessment of subjective well-being: Successes and shortfalls. In: Eid, M. and Larsen, R.J., Eds., *The Science of Subjective Well-Being*, The Guilford Press, New York, 124-167.
- [6] Diener, E. (1984) Subjective well-being. *Psychological Bulletin*, **95**, 542-575. [doi:10.1037/0033-2909.95.3.542](https://doi.org/10.1037/0033-2909.95.3.542)
- [7] Martin, K.M. and Huebner, E.S. (2007) Peer victimization and prosocial experiences and emotional well-being of middle school students. *Psychology in the Schools*, **44**, 199-208. [doi:10.1002/pits.20216](https://doi.org/10.1002/pits.20216)
- [8] Lucas, R.E. (2008) Personality and subjective well-being. In: Eid, M. and Larsen, R.J., Eds., *The Science of Subjective Well-Being*, The Guilford Press, New York, 171-194.
- [9] Fogle, L.M., Huebner, E.S. and Laughlin, J.E. (2002) The

- relationship between temperament and life satisfaction in early adolescence: Cognitive and behavioral mediation models. *Journal of Happiness Studies*, **3**, 373-392. doi:10.1023/A:1021883830847
- [10] Garcia, D. (2011) Two models of personality and well-being among adolescents. *Personality and Individual Differences*, **50**, 1208-1212. doi:10.1016/j.paid.2011.02.009
- [11] Garcia, D. (2011) The affective temperaments: Differences between adolescents in the big five model and cloning's psychobiological model of personality. *Journal of Happiness Studies*. doi:10.1007/s10902-011-9303-5
- [12] Garcia, D. (2011) Adolescents' happiness: The role of the affective temperament model on memory and apprehension of events, subjective well-being, and psychological well-being. Ph.D. Thesis, University of Gothenburg, Gothenburg.
- [13] Garcia, D. (2012) The affective temperaments and self-acceptance: Adolescents' life satisfaction and psychological well-being. In: Vassar, M., Ed., *The Psychology of Life Satisfaction*, Nova Science Publishers, New York, 1-17.
- [14] Garcia, D. and Archer, T. (2012) Adolescent life satisfaction and well-being. *Journal of Alternative Medicine Research*, **4**, 155-167.
- [15] Garcia, D., Ghiabi, B., Moradi, S., Siddiqui, A. and Archer, T. (2012) The happy personality: A tale of two philosophies. In: Morris, E.F. and Jackson, M.-A., Eds., *Psychology of Personality*, Nova Science Publishers, New York.
- [16] Garcia, D. and Erlandsson, A. (2011) The relationship between personality and subjective well-being: Different association patterns when measuring the affective component in frequency and intensity. *Journal of Happiness Studies*, **12**, 1023-1034. doi:10.1007/s10902-010-9242-6
- [17] Kim-Prieto, C., Diener, E., Tamir, M., Scollon, C. and Diener, M. (2005) Integrating the diverse definitions of happiness: A time-sequential framework of subjective well-being. *Journal of Happiness Studies*, **6**, 261-300. doi:10.1007/s10902-005-7226-8
- [18] Cloninger, C.R., Svrakic, D.M. and Przybeck, T.R. (1993) A Psychobiological model of temperament and character. *Archives of General Psychiatry*, **50**, 975-989. doi:10.1001/archpsyc.1993.01820240059008
- [19] Cloninger, C.R. (2004) *Feeling good: The science of well-being*. Oxford University Press, New York.
- [20] Allport, G.W. (1955) *Becoming: Basic considerations for a psychology of personality*. Yale University Press, New Haven.
- [21] Rogers, C.R. (1959) A theory of therapy, personality, and interpersonal relationships, as developed in the client-centered framework. In: Koch, S., Ed., *Psychology: A Study of a Science*, McGraw-Hill, New York, 184-256.
- [22] Costa, P.T. Jr. and McCrae, R.R. (1992). NEO PI-R professional manual. Psychological Assessment Resources, Inc., Odessa.
- [23] Garcia, D., Kerekes, N., Andersson-Arntén, A.-C. and Archer, T. (2012). Temperament, character, and adolescents' depressive symptoms: Focusing on affect. *Depression Research and Treatment*, **2012**, 8p. doi:10.1155/2012/925372
- [24] Tkach, C. and Lyubomirsky, S. (2006) How do people pursue happiness? Relating personality, happiness-increasing strategies, and well-being. *Journal of Happiness Studies*, **7**, 183-225. doi:10.1007/s10902-005-4754-1
- [25] McCullough, G., Huebner, E.S. and Laughlin, J.M. (2000) Life events, self-concept, and adolescents' positive subjective well-being. *Psychology in the Schools*, **37**, 281-290. doi:10.1002/(SICI)1520-6807(200005)37:3<281::AID-PI TS8>3.0.CO;2-2
- [26] Baron, R.M. and Kenny, D.A. (1986) The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, **51**, 1173-1182. doi:10.1037/0022-3514.51.6.1173
- [27] Brändström, S., Schlette, P., Przybeck, T.R., Lundberg, M., Forsgren, T., Sigvardsson, S., et al. (1998) Swedish normative data on personality using the temperament and character inventory. *Comprehensive Psychiatry*, **39**, 122-128. doi:10.1016/S0010-440X(98)90070-0
- [28] Brändström, S., Sigvardsson, S., Nylander, P.-O. and Richter, J. (2008) The Swedish version of the temperament and character inventory (TCI)—A cross-validation of age and gender influences. *European Journal of Psychological Assessment*, **1**, 14-21. doi:10.1027/1015-5759.24.1.14
- [29] Diener, E., Emmons, R.A., Larsen, R.J. and Griffin, S. (1985) The satisfaction with life scale. *Journal of Personality Assessment*, **49**, 71-75. doi:10.1207/s15327752jpa4901\_13
- [30] Garcia, D. (2011) Happy today, happy tomorrow: The (non-) effect of temporal distance on life satisfaction. *Personality and Individual Differences*, **51**, 1048-1051. doi:10.1016/j.paid.2011.07.031
- [31] Garcia, D., Rosenberg, P. and Siddiqui, A. (2011) Tomorrow I could be in trouble...but the sun will come out next year: The effect of temporal distance on adolescents' judgments of life satisfaction. *Journal of Adolescence*, **34**, 751-757. doi:10.1016/j.adolescence.2010.08.006
- [32] Watson, D., Clark, L.A. and Tellegen, A. (1988) Development and validation of brief measures of positive and negative affect: The PANAS scale. *Journal of Personality and Social Psychology*, **54**, 1063-1070. doi:10.1037/0022-3514.54.6.1063
- [33] Garcia, D., Archer, T., Moradi, S. and Andersson-Arntén, A.-C. (2012) Exercise frequency, high activation positive affectivity, and psychological well-being: Beyond age, gender, and occupation. *Psychology*, **3**, 328-336.
- [34] Garcia, D. and Sikström, S. (2012) Quantifying the semantic representations in adolescents' memories of positive and negative life events. *Journal of Happiness Studies*. doi:10.1007/s10902-012-9385-8
- [35] Sheldon, M.K. and Lyubomirsky, S. (2006) Achieving sustainable gains in happiness: Change your actions, not your circumstances. *Journal of Happiness Studies*, **7**, 55-86. doi:10.1007/s10902-005-0868-8



- [36] Garcia, D. and Moradi, S. (2011) Adolescents' temperament and character: A longitudinal study on happiness. *Journal of Happiness Studies*, **13**, 931-946. [doi:10.1007/s10902-011-9300-8](https://doi.org/10.1007/s10902-011-9300-8)
- [37] Garcia, D. (2012) Adolescents' happiness-increasing strategies and well-being. *6th European Conference on Positive Psychology*, Moscow, 26-29 June 2012, 34.
- [38] Sheldon, M.K. and Lyubomirsky, S. (2006) How to increase and sustain positive emotion: The effects of expressing gratitude and visualizing best possible selves. *The Journal of Positive Psychology*, **1**, 73-82. [doi:10.1080/17439760500510676](https://doi.org/10.1080/17439760500510676)
- [39] Garcia, D., Kerekes, N. and Archer, T. (2012) A will and a proper way leading to happiness: Self-directedness mediates the effect of persistence on positive affectivity. *Personality and Individual Differences*, **53**, 1034-1038. [doi:10.1016/j.paid.2012.07.025](https://doi.org/10.1016/j.paid.2012.07.025)
- [40] Garcia, D. and Moradi, S. (2012) The Affective temperaments and well-being: Swedish and Iranian adolescents' life satisfaction and psychological well-being. *Journal of Happiness Studies*. [doi:10.1007/s10902-012-9349-z](https://doi.org/10.1007/s10902-012-9349-z)
- [41] Garcia, D., Rosenberg, P., Erlandsson, A. and Siddiqui, A. (2010) On lions and adolescents: Affective temperaments and the influence of negative stimuli on memory. *Journal of Happiness Studies*, **11**, 477-495. [doi:10.1007/s10902-009-9153-6](https://doi.org/10.1007/s10902-009-9153-6)
- [42] Garcia, D. And Siddiqui, A. (2009) Adolescents' psychological well-being and memory for life events: Influences on life satisfaction with respect to temperamental dispositions. *Journal of Happiness Studies*, **10**, 387-503. [doi:10.1007/s10902-008-9096-3](https://doi.org/10.1007/s10902-008-9096-3)
- [43] Cloninger, C.R., Przybeck, T.R., Svrakic, D.M. and Wetzel, R.D. (1994) The temperament and character inventory (TCI): A guide to its development and use. Washington University Center for Psychobiology of Personality, St. Louis.
- [44] Cloninger, C.R., Zohar, A.H., Hirschmann, S. and Dahan, D. (2012) The psychological costs and benefits of being highly persistent: Personality profiles distinguish mood disorders from anxiety disorders. *Journal of Affective Disorders*, **136**, 758-766. [doi:10.1016/j.jad.2011.09.046](https://doi.org/10.1016/j.jad.2011.09.046)
- [45] Harter, S., Marold, D.B., Whitesell, N.R. and Cobbs, G. (1996) A model of the effects of perceived parent and peer support on adolescent false self behavior. *Child Development*, **67**, 360-374. [doi:10.1016/j.jad.2011.09.046](https://doi.org/10.1016/j.jad.2011.09.046)
- [46] Steinberg, L. and Morris, A.S. (2001) Adolescent development. *Annual Review of Psychology*, **52**, 83-110. [doi:10.1146/annurev.psych.52.1.83](https://doi.org/10.1146/annurev.psych.52.1.83)
- [47] Harter, S., Waters, P. and Whitesell, N.R. (1998) Relational self-worth: Differences in perceived worth as a person across interpersonal contexts among adolescents. *Child Development*, **69**, 756-766.
- [48] Cloninger, C.R. (2006) Fostering spirituality and well-being in clinical practice. *Psychiatric Annals*, **36**, 1-6.