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Questions of Self-regulation and Affect: Affectivity, Locomotion, Assessment, and Psychological Well-Being

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Abstract

Objective: The affectivity system is a complex dynamic system, thus, it needs to be seen as a whole-system unit that is best studied by analyzing four profiles: self-destructive (low positive affect, high negative affect), low affective (low positive affect, low negative affect), high affective (high positive affect, high negative affect), and self-fulfilling (high positive affect, low negative affect). Our purpose was to examine individual differences in psychological well-being and self-regulatory strategies (assessment/locomotion). Additionally, we investigated if the effect of psychological well-being on self-regulatory strategies was moderated by the individual's type of profile.

Method: Participants (N = 567) answered the Positive Affect Negative Affect Schedule, Ryff's Scales of Psychological Well-being, and the Regulatory Mode Questionnaire. We conducted a Multivariate Analysis of Variance using age as covariate and Structural Equation Modeling in a multi-group for moderation analysis.

Result: Individuals with a self-fulfilling profile scored highest in all psychological well-being constructs and locomotion and lowest in assessment. Nevertheless, matched comparisons showed that increases in certain psychological resources might lead to profile changes. Moreover, while some psychological well-being constructs (e.g., self-acceptance) had an effect of self-regulatory mode independently of the individual's profile, other constructs' (e.g., personal growth) effect on self-regulation was moderated by the person's unique type of profile.

Conclusions: Although only theoretical, these results give an idea of how leaps/changes might be extreme (i.e., from one profile at the extreme of the model to the other extreme), while other might be serial (i.e., from one profile to another depending on matching affective dimensions).

Keywords: affective profiles model, assessment, cluster analyses, locomotion, person-centered methods, psychological well-being, self-regulatory mode.

Introduction

Positive affect and negative affect are indicators of well-being (Diener, 1984) and are not only related to different behavior (see Lyubomirsky, King & Diener, 2005; Watson, Clark & Tellegen, 1988), but are also influenced by genes and the environment to different extent (see Cloninger & Garcia, 2015). This independent inter-relationship between the two affectivity dimensions implies that individuals do not only differ in affectivity between each other but also within themselves, that is, the affectivity system is a complex dynamic adaptive system[1] (Garcia, Adrianson, Archer & Rosenberg, 2015). Indeed, human personality is a non-linear dynamic system (Cloninger, 2004) that responds to the laws of attractor

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1- See also Bergman & Wångby, 2014; Bergman & Magnusson, 1997, who suggest that complex dynamic systems should be seen as a whole-system unit that is best studied by analyzing patterns of information or profiles; and Cloninger, Svrakic & Svrakic, 1997, who explain nonlinear dynamics in complex adaptive systems.

states[1], which are essential for the understanding of most physical and human phenomena, affectivity included (Hiver, 2014). In this line of thinking, Archer and Garcia have repeatedly used the following four combinations or profiles of individuals' experience of positive and negative affect: self-fulfilling (i.e., 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). Individuals with different affective profiles (i.e., different of high/low positive/ negative affect), for example, report different levels of psychological well-being—a multidimensional construct consisting of six different constructs or psychological resources: positive relations with others, environmental mastery, self-acceptance, autonomy, purpose in life, and personal growth (Ryff, 1989). In this context, a person's strategy to approach success and/or avoid failure when assessing and acting upon goals (i.e., an individual's regulatory mode; Kruglanski, Thompson, Higgins, Atash, Pierro, Shah & Spiegel, 2000) should also be associated to the affectivity system (i.e., positive affect and negative affect). Moreover, individuals might not only differ in the way they regulate their behavior depending on their affective profile, the effect of a person's psychological well-being (i.e., psychological resources) on her/his regulatory mode might also be moderated by her/his own affective profile.

With regard to psychological well-being, individuals with a high positive affect profile, particularly those with a self-fulfilling profile, report higher levels of self-acceptance and environmental mastery compared to individuals with a self-destructive profile (Garcia, 2012, Garcia & Archer, 2012 Garcia & Siddiqui, 2009). At a first view, it is easy to assume that positive affect creates psychological benefits, or resources, which help the individual finding meaning in her/his life and to regulate behavior towards important goals (cf. Fredrikson, 2006; Garcia & Archer, 2012). Nevertheless, this does not explain why individuals with a low-affective profile experience higher life satisfaction and psychological well-being than self-destructive individuals, but not lesser than individuals with a high affective profile (Garcia & Siddiqui, 2009ab). After all, the low affective profile is characterized by low affectivity per se. One of the main explanations to this observation is that individuals with different profiles might achieve well-being through the use of different self-regulatory strategies. In other words, individuals are able to regulate their well-being, probably by specific strategies that fit their affective profile to maintain homeostasis in their affective system (cf. Garcia, Rosenberg, Erlandsson & Siddiqui, 2010; Garcia, Sailer, Nima & Archer, 2016).

In this context, two regulatory modes have been distinguished by earlier research: assessment and locomotion. Assessment is the comparison and judgment aspect of self-regulation in which the individual critically evaluates goals and/or means in relation to different alternatives (Kruglanski et al., 2000; see also Higgins, 2001, 2012). That is, high levels of assessment suggest that the person constantly evaluate themselves and other persons in relation to different outcomes and attainments. Their main focus lies in doing the right thing under the given circumstances (Kruglanski et al., 2000). Locomotion, on the other hand, is the operational drive and endurance to achieve a desired goal, that is, the capability of advancing step-by-step through each stage that leads to the desired goal. In other words, high levels of locomotion indicate that a person's main interest lies in simply moving on and "just doing it" (Kruglanski et al., 2000; Pierro, Giacomanonio, Pica, Kruglanski & Higgins, 2013). Studies using the affective profiles models as the background for individual differences (e.g.,

1- Fixed points, or steady states of a given dynamical system; these are values of the variable that don't change over time. Some of these fixed points are attractive, meaning that if the system starts out in a nearby state, it converges towards the fixed point (https://en.wikipedia.org/wiki/Dynamical_systems_theory).

Jimmefors et al., 2014) suggest a clear association between assessment and high negative affect profiles (i.e., high affective and self-destructive), but also to those with low positive affect (i.e., low affective and self-destructive). Locomotion, on the other hand, is clearly associated to high positive affect profiles (i.e., self-fulfilling and high affective). These findings, together with others using the affective profile model, are in line with descriptions of high "assessors" as vigilant, careful, critical, and calculated (Pierro et al., 2006) and descriptions of "locomotors" as doers, go-getters, and people of action (Pierro et al, 2006; Amato, Pierro, Chirumbolo & Pica, 2014).

That being said, the usefulness of the affective profiles model is that it helps to understand the dynamics within the system as well (Garcia, MacDonald & Archer, 2015). For example, in which conditions do individuals who are similar in one affect dimension but that differ in the other affect dimension are distinct from each other in regulatory modes and psychological well-being? This is a question that cannot be discerned when we only compare individuals who are diametrically different (i.e., at the extremes of the model: self-destructive versus self-fulfilling and low affective versus high affective). It can be answered when we compare those who match in one affective dimension but that differ in the other (i.e., within differences): self-destructive versus high affective (matching: high-high negative affect, differing: low-high positive affect), self-destructive versus low affective (matching: low-low positive affect, differing: high-low negative affect), high affective versus self-fulfilling (matching: high-high positive affect, differing: high-low negative affect), and low affective versus self-fulfilling (matching: low-low negative affect, differing: low- high positive affect). For instance, in a recent study, Garcia and colleagues (Garcia, Sailer, Nima & Archer, 2016; see also De Caroli & Sagone, 2016; Di Fabio & Bucci, 2015) showed that individuals with a low affective profile achieve homeostasis through being fatalistic of their present, that is, seeing their life path as controlled by external forces, avoiding to worry about the future because they see it as uncontrollable, believing in luck or fate rather than hard work, and avoiding to set goals. This strategy does indeed help individuals with a low affective profile to prevent unhappiness (i.e., low levels of negative affect) and is certainly in line with how their affectivity system dynamically regulates itself, probably through high levels of assessment (cf. self-regulatory theory; Higgins, 2001). In other words, by being fatalistic about their present they prevent becoming disappointed and just the absence of that possible disappointment makes them feel satisfied with their life (Garcia, Rosenberg, Erlandsson & Siddiqui, 2010; see also Fredriksson, 2006; Garcia & Siddiqui, 2009a). Of course, at the same time the usage of this strategy limits their experience of positive emotions, which might explain why they are not as satisfied with life as individuals with a self-fulfilling profile.

In sum, individuals differ in psychological well-being and regulatory mode depending on their affective profile. These differences probably fit their profile to maintain homeostasis within their affective system (cf. Garcia, Rosenberg, Erlandsson & Siddiqui, 2010). If so, different psychological resources (i.e., psychological well-being constructs) might influence individuals' regulatory mode depending on their affective profile. The present study is a replication, using a larger sample than those in earlier studies, of differences in psychological well-being and regulatory mode between individuals with distinct affective profiles. We expected individuals with a self-fulfilling profile to report higher levels of psychological well-being, lower levels of assessment, and higher levels of locomotion. By investigating differences between individuals that match in one affective dimension and differ in the other, we expand earlier findings. As another addition to the current literature, we also addressed the question whether or not the effect of psychological well-being dimensions on regulatory

mode was moderated by the individual's type of profile.

Method

Ethical statement

After consulting with the Network for Empowerment and Well-Being's Review Board we arrived at the conclusion that the design of the present study (e.g., all participants' data were anonymous and will not be used for commercial or other non-scientific purposes) required only informed consent from the participants.

Participants

A total of 579 individuals were recruited from a University and two high schools in the west of Sweden (207 males, 367 females, and 5 who did not report their gender, *mean* age = 21.90 years *SD* = 6.42 years, with a range of 17 to 69 years). A total of 12 individuals did not report their age. Since we corrected for age, this left a final sample of 567 respondents.

Procedure

The university students were psychology undergraduates who where asked to fill out the survey after a lecture. The high school pupils were from a medium size technical high school with a "computer-profile" and from a high school located in a small city in the western side of Sweden. This is one of the biggest high schools in Sweden with a comprehensive catchment area that lead to a wide selection of psychosocial-economics backgrounds among the pupils. The pupils were selected by the criteria of being in their last year of high school (i.e., 18 years of age) in order to collect their final grades, a variable included in a longitudinal study. The principals and responsible teachers authorized the study and the data was collected by one of the authors of the study. The school counselor was informed of the study and received a copy of the survey in case of the survey raised any thoughts or questions among the students. Also, the e-mail addresses and names of those responsible for the study were given to all students so that they could contact them later on. The students participated through responding to an online version of the survey, uploaded onto the internal network of the schools, which each student had access to, therefore all respondents had to be students on the school and registered on the courses that took place in the last year. In case of any technical issues, all students where offered a paper version of the survey. All students were informed of the participation being voluntary and strictly confidential. Completing the survey required approximately 30 minutes and one of the authors was present during the whole time to answer any questions.

Measures

Affect. The Positive Affect and Negative Affect Schedule (Watson et al., 1988) assesses affect by requiring participants to indicate on 5-point Likert scale (1 = *very slightly*, 5 = *extremely*) to what extent they generally experienced 20 adjectives describing affect states (10 positive affect, such as, strong, proud; 10 negative affect, such as, afraid, nervous) within the last few weeks. The Swedish version has been used in previous studies (e.g., Garcia and Erlandsson, 2011) and demonstrated acceptable internal consistency in the present study: *Cronbach's alpha* for positive affect was .85 and .85 for negative affect.

Regulatory mode. The two regulatory modes were measured by the Regulatory Mode Questionnaire (Kruglanski et al., 2000), which comprises 30-item (e.g., for "assessment", 'I often critique work done by myself or others'; for "locomotion", 'I am a "doer") with a 6-point Likert scale (1 = *strongly disagree*; 6 = *strongly agree*). The Swedish version has been used in previous studies (e.g., Jimmefors et al., 2014; Garcia et al., 2015). In the present study Cronbach's alpha were .75 for assessment and .74 for locomotion.

Psychological Well-Being. Ryff's Psychological

Well-Being Scales short version (Clarke, Marshall, Ryff and Wheaton, 2001) comprises 18 items with a 6-point Likert (1 = *strongly disagree*; 6 = *strongly agree*), 3 items for each of the 6 dimensions: self-acceptance (e.g., "I like most aspects of my personality"), personal growth (e.g., "For me, life has been a continuous process of learning, changing, and growth"), purpose in life ("Some people wander aimlessly through life, but I am not one of them"), environmental mastery (e.g., " I am quite good at managing the responsibilities of my daily life"), autonomy (e.g., "I have confidence in my own opinions, even if they are contrary to the general consensus"), and positive relations with others (e.g., "People would describe me as a giving person, willing to share my time with others"). The Swedish version has been used in previous studies (Jimmefors et al., 2014; Garcia and Siddiqui, 2009a; Garcia et al., 2015) and it has showed low to moderate reliability for most of the subscales. In the present study Cronbach's alphas were .77 for self-acceptance, .56 for personal growth, .55 for purpose in life, .68 for environmental mastery, .55 for autonomy, and .57 for positive relations with others.

Statistical treatment

In previous research regarding the categorization of the affective profiles, the respondents have been sorted into one of the four groups by dividing scores into high and low affect in reference to the median (e.g., Norlandet et al., 2002). In this study, we used cluster analysis instead of the more traditional median splits. Other studies (e.g., Macdonald & Kormi-Nouri, 2013) demonstrated that k-means cluster discern four affective profiles, the combinations of high vs. low affectivity, as proposed by Archer and colleagues (see also Garcia, MacDonald & Archer, 2015). This resulted in the following distribution of participants in the four affective profiles: 77 in the self-destructive profile (low positive and high negative affect), 146 in the low affective profile (low positive and low negative affect), 129 in the high affective profile (high positive and high negative affect), and 215 in the self-fulfilling profile (high positive and low negative affect).

Results

Differences in psychological well-being and regulatory mode

One Multivariate Analysis of Variance (MANOVA) was performed using positive relations, environmental mastery, self-acceptance, autonomy, personal growth, purpose in life, locomotion, and assessment as the dependent variables. The participants' type of affective profile (i.e., self-destructive, low affective, high affective, and self-fulfilling) was the independent variable, while age was used as the covariate.

The type of affective profiles had a significant effect on the psychological well-being and regulatory mode dimensions (F (24, 1635) = 14.76, $p < .001$, *Pillai'sTrace* = .53). Compared to individuals with any of the other three profiles, Individuals with a self-fulfilling profile scored higher in positive relations (F (3,550) = 32.59, $p < .001$), environmental mastery (F (3,550) = 118.25, $p < .001$), self-acceptance (F (3,550) = 85.01, $p < .001$), autonomy (F (3,550) = 16.79, $p < .001$), and personal growth (F (3,550) = 22.89, $p < .001$. Additionally, individuals with a self-fulfilling profile scored higher in purpose in life (F (3,550) =9.84, $p < .001$) and locomotion (F (3,550) = 36.20, $p < .001$) compared to individuals with either a self-destructive or a low affective profile. Individuals with a self-destructive profile scored higher in assessment as compared to individuals with either a self-fulfilling or a low affective profile (F (3,550) = 18.55, $p < .001$). See Table 1 for all the details when diametrically different profiles and within differences were investigated.

Multi-group moderation analysis

To investigate which of the psychological dimensions that were related to both assessment and locomotion, we performed a path analysis,

Table 1. Estimated marginal mean scores in psychological well-being and regulatory mode among individuals with different affective profiles.

	Self-destructive (*n*= 77)	Low affective (*n*= 146)	High affective (*n*= 129)	Self-fulfilling (*n*= 215)
Positive relations	3.78	4.32^{D***}	4.24^{D**}	4.91$^{D, L, H***}$
Environmental mastery	3.02	3.85^{D***}	3.84^{D***}	4.93$^{D, L, H***}$
Self-acceptance	2.89	3.96^{D***}	3.89^{D***}	4.88$^{D, L, H***}$
Autonomy	3.59	3.95^{D*}	3.87	3.35$^{D, L, H***}$
Personal growth	4.36	4.59	4.68^{D*}	5.12$^{D, L, H***}$
Purpose in life	4.23	4.29	4.49	4.70$^{D, L***}$
Locomotion	3.53	3.68	4.04$^{D, L***}$	4.22$^{D, L***}$
Assessment	4.13$^{L**, F***}$	3.79	4.11$^{L**, F***}$	3.61

Note: *P < .05. **P < . 01. ***P < .001. ^{D} = higher compared to the self-destructive; ^{L} = higher compared to the low affective; ^{H} = higher compared to the high affective; ^{F} = higher compared to the self-fulfilling.

using AMOS (version 21)—in order to estimate interaction/moderation effects between affective profiles as the moderator, psychological well-being dimensions as independent variables, and assessment and locomotion as the outcome. The structural equation model of multi-group analysis resulted into a *Chi-square* = 11.03; *DF* = 4; p < .05. The path model yielded a good fit, as indicated by comparative fit index = .99; incremental fit index = .99, normed fit index = .99 and root mean square error of approximation = .06. In essence, the analyses showed that 18% to 31% of the variance of locomotion and 14% to 23% of the variance of assessment were explained by the 6 dimensions of psychological well-being via affective profiles (See Table 2 for the details).

Locomotion was significantly predicted by personal growth for individuals with any of the four affective profiles (see Tables 2 and Figure 1). In other words, its relation was not moderated by the individual's type of profile. Locomotion was also significantly predicted by environmental mastery among individuals with either a high affective or a self-fulfilling profile (see Figure 1), thus, suggesting that this relationship is moderated by positive affect. A specific moderation effect was found among individuals with a low affective profile, among whom, autonomy significantly predicted locomotion (see Figure 1). This was not the case for individuals with any of the other profiles. For Assessment, personal growth was the most common predictor among individuals with either a self-destructive, or a low affective, or a self-fulfilling profile (see Figure 1). A unique moderation effect was found among individuals with a self-destructive profile, among whom positive relations predicted lower levels of assessment (see Figure 1). Environmental mastery predicted also lower levels of assessment among individuals with either a low affective or a high affective profile (see Figure 1). Purpose in life predicted assessment among individuals with either a high affective or a self-fulfilling profile (see Figure 1). Finally, a unique moderation effect was found among individuals with a self-fulfilling profile, among whom assessment was significantly predicted by self-acceptance (see Figure 1).

Discussion and conclusion

The present study replicated, using a larger sample compared to previous studies, results with regard to differences in psychological well-being and regulatory mode between individuals with distinct affective profiles. At a general level, individuals with a self-fulfilling profile reported the best possible outlook when compared to individuals with a self-destructive profile: higher ability to be

Table 2. Structural coefficients for the structural equation model of multi-group moderation among individuals with a self-destructive (Panel A), low affective (Panel B), high affective (Panel C), and a self-fulfilling (Panel D) profile in which the psychological well-being dimensions are the predictors of locomotion and assessment.

Predictors	Outcome	ß	SE	B	P
A. Self-destructive					
Positive relations	Locomotion	-.01	.08	-.02	*ns*
Environmental mastery		.13	.11	.16	*ns*
Self-acceptance		-.09	.08	-.15	*ns*
Autonomy		-.14	.07	-.20	*ns*
Personal growth		**.30**	**.07**	**.44**	***p* < .001**
Purpose in life		.13	.09	.16	*ns*
R^2	.31				
Positive relations	Assessment	**-.15**	**.07**	**-.24**	***p* < .05**
Environmental mastery		-.09	.10	-.13	*ns*
Self-acceptance		-.08	.08	-.14	*ns*
Autonomy		-.10	.07	-.16	*ns*
Personal growth		**.17**	**.07**	**.28**	***p* < .05**
Purpose in life		-.07	.08	-.11	*ns*
R^2	.18				
B. Low Affective					
Positive relations	Locomotion	-.01	.05	-.01	*ns*
Environmental mastery		.01	.06	.00	*ns*
Self-acceptance		.01	.06	.01	*ns*
Autonomy		**.13**	**.06**	**.17**	***p* < .05**
Personal growth		**.17**	**.06**	**.27**	***p* < .01**
Purpose in life		.10	.06	.15	*ns*
R^2	.18				
Positive relations	Assessment	-.12	.07	-.15	*ns*
Environmental mastery		**-.33**	**.07**	**.-40**	***p* < .001**
Self-acceptance		.01	.07	.02	*ns*
Autonomy		-.07	.07	-.08	*ns*
Personal growth		**.25**	**.07**	**.30**	***p* <001**
Purpose in life		.04	.07	.05	*ns*
R^2	.23				
C. High Affective					
Positive relations	Locomotion	-.02	.05	-.04	*ns*
Environmental mastery		**.26**	**.06**	**.40**	***p* < .001**
Self acceptance		-.06	.05	-.11	*ns*
Autonomy		-.03	.05	-.04	*ns*
Personal growth		**.25**	**.06**	**.35**	***p* < .001**
Purpose in life		.07	.06	.10	*ns*
R^2	.29				

(Continued)

Table 2. (Continued)

Predictors	Outcome	ß	SE	B	P
Positive relations	Assessment	-.10	.06	-.17	*ns*
Environmental mastery		**-.16**	**.07**	**-.23**	***p* < .05**
Self-acceptance		-.05	.06	-.08	*ns*
Autonomy		.02	.06	.03	*ns*
Personal growth		.11	.07	.14	*ns*
Purpose in life		**.20**	**.07**	**.27**	***p* < .01**
R^2	.17				
D. Self-fulfilling					
Positive relations	Locomotion	.01	.05	.02	*ns*
Environmental mastery		**.28**	**.06**	**.33**	***p* <001**
Self-acceptance		.04	.05	.05	*ns*
Autonomy		-.06	.04	-.09	*ns*
Personal growth		**.20**	**.05**	**.25**	***p* <001**
Purpose in life		.08	.05	.10	*ns*
R^2	.25				
Positive relations	Assessment	-.05	.06	-.06	*ns*
Environmental mastery		-.09	.07	-.08	*ns*
Self-acceptance		**-.15**	**.07**	**-.17**	***p* <05**
Autonomy		.02	.06	.03	*ns*
Personal growth		**.21**	**.07**	**.22**	***p* <01**
Purpose in life		**.20**	**.07**	**.20**	***p* <01**
R^2	.14				

Note: Significant regression weights are shown in bold type, *ns is* not significant.

cooperative and to have warm relations with others (i.e., the positive relations dimension), higher control and responsibility of their daily lives (i.e., the environmental mastery dimension), higher self-acceptance, higher sense of autonomy, higher sense of life as a process of learning and growth (i.e., the personal growth dimension), a higher sense of purpose in life, a "just do it" mentality (i.e., high levels of locomotion), and a low tendency to ruminate about how and own capability to achieve goals (i.e., low levels of assessment). Indeed, such and outlook suggest that individuals with a self-fulfilling profile live in unity with all parts of their being: body, mind, and psyche (cf. Cloninger, 2004; Garcia, Adrianson, Archer & Rosenberg, 2015). Nevertheless, the only difference found in the other diametrical comparison was that individuals with a high affective profile scored higher in both locomotion and assessment than individuals with a low affective profile (see Figure 2, black arrows).

Using matched comparisons helped us to discerned that increases in psychological resources such as positive relations with others might lead to increases in positive affect even when negative affect is high (self-destructive vs. high affective) or low (low affective vs. self-fulfilling) and to decreases in negative affect even when positive affect is low (self-destructive vs. low affective) or high (high affective vs. self-fulfilling). This same pattern was found for increases in environmental mastery and self-acceptance (see Figure 2, grey arrows). Indeed, self-directedness (cf. environmental mastery, self-acceptance) and cooperativeness (cf. positive relations with others) are predictors of mental health

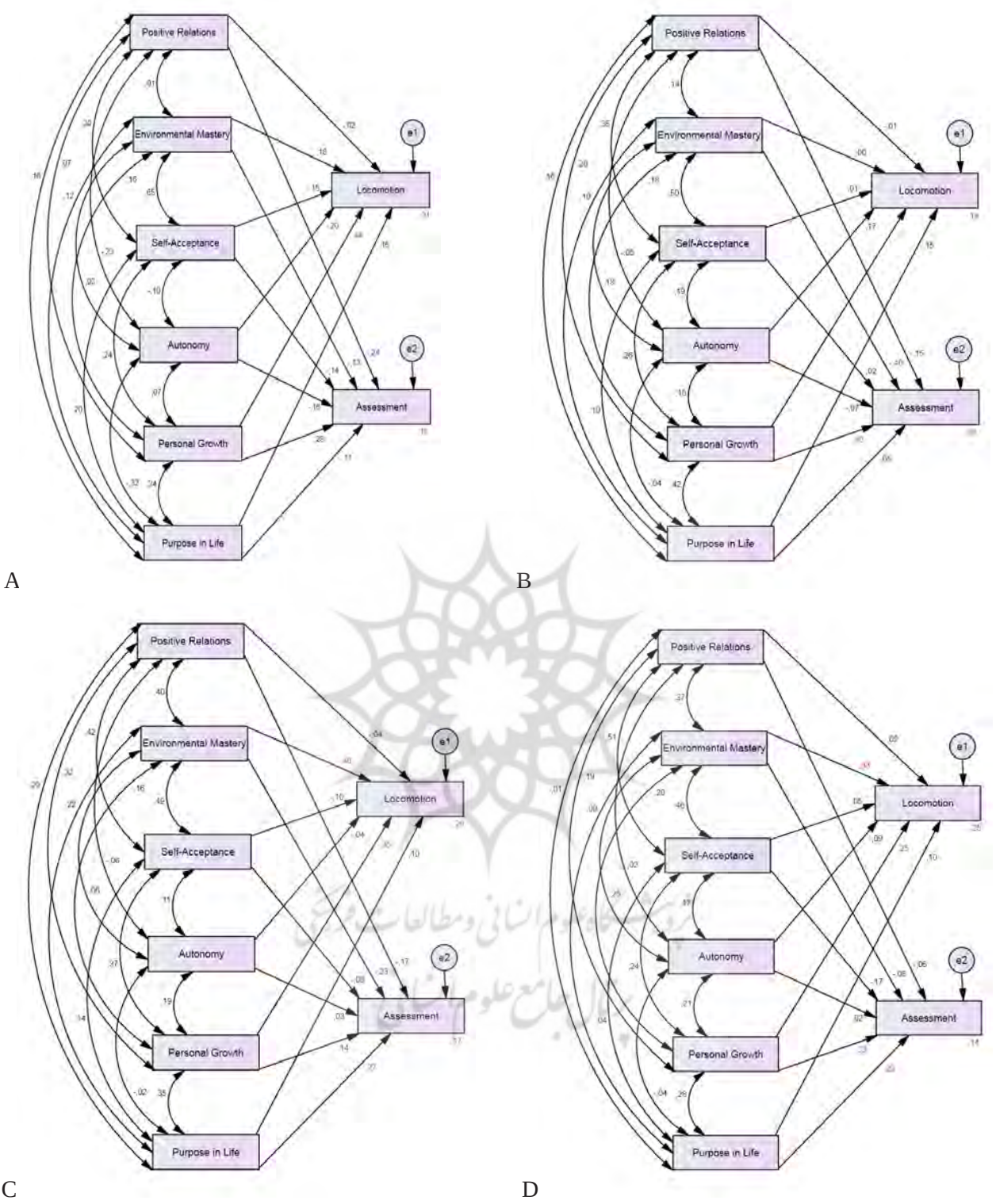

Figure 1. Structural equation model of locomotion and assessment as the dependent variables predicted by psychological well-being dimensions via (A) the self-destructive profile (n = 77), (B) the low affective profile (n = 146), (C) the high affective profile (n = 129), and (D) the self-fulfilling profile (n = 215).

Note: *Chi-square* = 11.03; *DF* = 4; $p < .05$; comparative fit index = .99; incremental fit index = .99, normed fit index = .99 and root mean square error of approximation = .06. e = error. Standardized parameter estimates of regression weights in red are significant at the $p < .001$ level and those in blue are significant at the $p < .05$ level.

per se (Cloninger, 2004, 2006, 2013) and seem here to push all individuals, independently of type of affective profile, to self-fulfilment (see Figure 2). Increases in personal growth, in contrast, do not lead to lower negative affect when positive affect is low (self-destructive vs. low affective). But do lead to high positive affect when negative affect is high (self-destructive vs. high affective) and low (low affective vs. self-fulfilling) and lead to low negative affect when positive affect is high (high affective vs. self-fulfilling). In other words, at least for an individual with a self-destructive profile, increases in the sense of life as a learning experience will not lead to low affectivity, it will rather lead to self-fulfilment or to high affectivity and then to self-fulfillment. Personal growth has indeed been described as not necessarily a pleasant and unemotional experience (Ryff, 1989); it rather is attuned to a life worth living (Cloninger, 2004). Increases in autonomy were associated to low negative affect when positive affect was low (self-destructive vs. low affective) or high (high affective vs. self-fulfilling) and to high positive affect when negative affect was low (low affective vs. self-fulfilling). In contrast, increases in autonomy were not linked to high positive affect when negative affect was high (self-destructive vs. high affective). In this regard, negative affect or/and amygdalae activity is linked to less brain activity in the prefrontal cortex, while the sense of free will is linked to high levels of positive affect and prefrontal cortex activity (Cloninger, 2004). It is probable that our findings suggest that high negative affect in conjunction with low levels of positive affect impair the positive effects of having a sense being free or autonomous. In this context, psychophysiological coherence, a state of calm alertness that occurs naturally with sustained positive emotions, might be helpful for individuals with a self-destructive affective profile, since this state increases efferent parasympathetic activity and it is associated to increases in frontal lobe activity, thus, allowing the expression of character and sense of free will (Zohar, Cloninger & McCraty, 2013)—psychophysiological coherence can be induced by slow, deep breathing, relaxing, and sleeping (Zohar et al., 2013). This is, for instance, in line with research showing that individuals with a self-destructive profile have sleeping problems and problems relaxing, which in turn might explain why increases in their level of autonomy are not associated with increases of positive affect.

As an addition to the current literature, we also addressed the question whether or not the effect of psychological well-being dimensions on regulatory mode was moderated by the individual's type of profile. For individuals with a self-destructive profile: assessment was negatively predicted by positive relations and positively by personal growth; locomotion was positively predicted by personal growth. For individuals with a low affective profile: assessment was negatively predicted by environmental mastery and positively by personal growth; locomotion was positively predicted by autonomy and personal growth. For individuals with a high affective profile: assessment was negatively predicted by environmental mastery and positively by purpose in life; locomotion was positively predicted by environmental mastery and personal growth. For individuals with a self-fulfilling profile: assessment was negatively predicted by self-acceptance and positively by personal growth and purpose in life; locomotion was positively predicted by environmental mastery and personal growth. Personal growth was the main psychological resource to be directly linked to locomotion. That is, independently of the individual's type of affective profile, seeing life as a learning field (i.e., personal growth) might always promote a 'just do it' mentality. This is also in line with the fact that personal growth is not solely linked to frequently experiencing positive emotions, but also experiencing negative emotions and all combinations in-between (Ryff, 1989). All these moderation effects illustrate the usefulness of person-oriented methods when studying complex

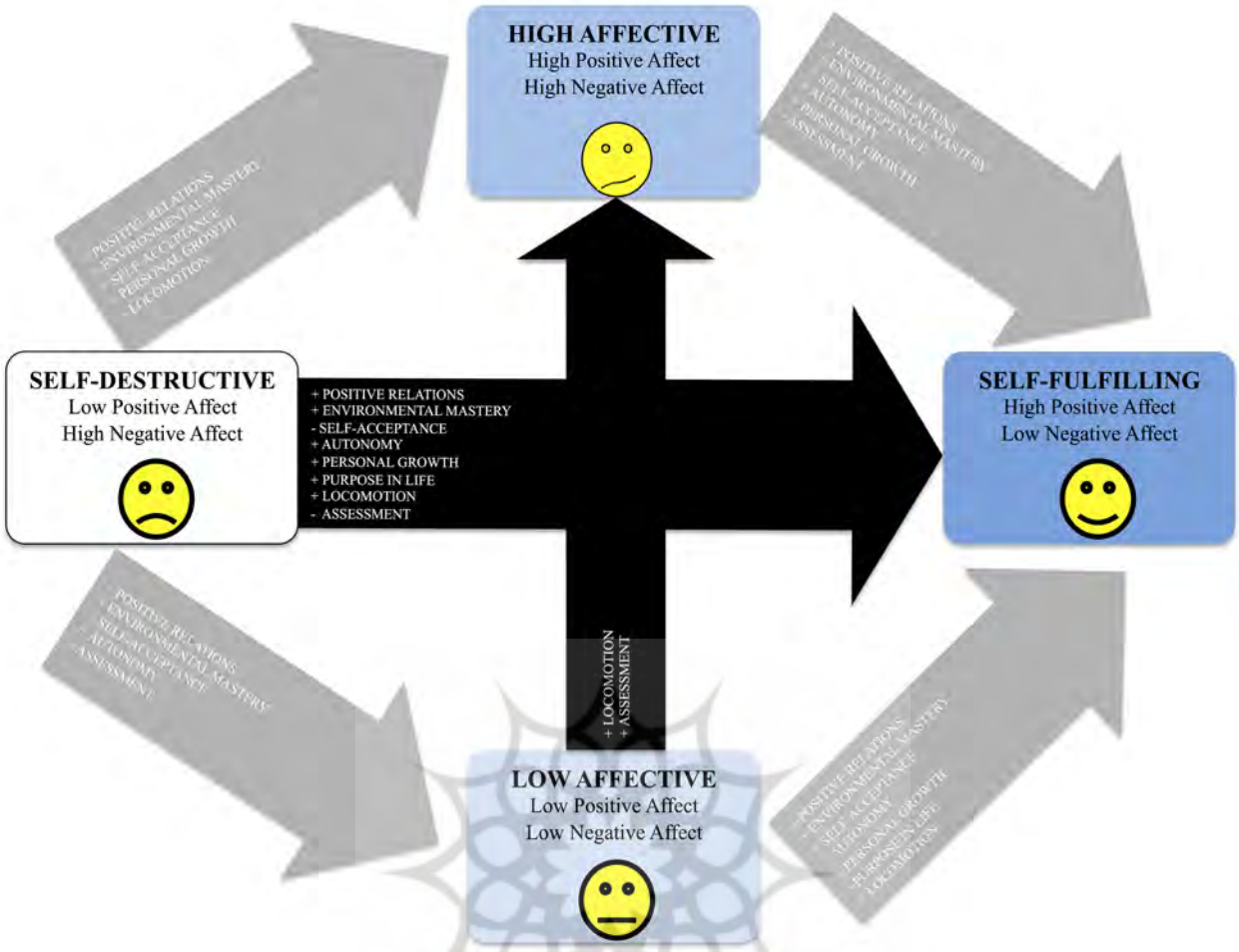

Figure 2. Differences (black arrows) found between individuals with affective profiles that are at the extreme of the model (i.e., diametrical differences): self-destructive versus self-fulfilling (low-high positive affect, high-low negative affect) and low affective versus high affective (low-high positive affect, low-high negative affect). Differences (grey arrows) found when individuals were matched in one affective dimension and differed in the other (i.e., within differences): self-destructive versus high affective (matching: high-high negative affect, differing: low-high positive affect), self-destructive versus low affective (matching: low-low positive affect, differing: high-low negative affect), high affective versus self-fulfilling (matching: high-high positive affect, differing: high-low negative affect), and low affective versus self-fulfilling (matching: low-low negative affect, differing: low- high positive affect).

Note: For individuals with a self-destructive profile: assessment was negatively predicted by positive relations and positively by personal growth; locomotion was positively predicted by personal growth. For individuals with a low affective profile: assessment was negatively predicted by environmental mastery and positively by personal growth; locomotion was positively predicted by autonomy and personal growth. For individuals with a high affective profile: assessment was negatively predicted by environmental mastery and positively by purpose in life; locomotion was positively predicted by environmental mastery and personal growth. For individuals with a self-fulfilling profile: assessment was negatively predicted by self-acceptance and positively by personal growth and purpose in life; locomotion was positively predicted by environmental mastery and personal growth. Figure 2 was reprinted with permission from Well-Being and Human Performance Sweden AB.

non-linear adaptive systems; in this case the affective system. For example, autonomy or the sense of free will seems to lead individuals with a low affective profile to approach goals in locomotion mode. For their diametrical opposites, individuals with a high affective profile, it was their sense of mastery with their environment what promoted a locomotion mode when approaching goals. This is in line with earlier

research suggesting that individuals with a low affective profile are introverted and seek inner peace in order to keep homeostasis, while individuals with a high affective profile are extroverted and seek cues outside themselves to keep their affective balance (see also Garcia, Adrianson, Archer & Rosenberg, 2015).

One important limitation is the fact that the sample was constituted of students and pupils. Nevertheless, in comparison to earlier studies, the sample used here was relatively large and more diverse (see for example Jimmefors et al., 2014). In the present study we suggested that psychological resources, in the form of psychological well-being, were expected to predict the type of self-regulatory strategy individuals with different profiles would use when striving for goals in their lives. Regulatory mode manipulation has actually been reported to influence behavior (see any work by Higgins), hence, it is possible to expect the opposite: regulatory mode predicts which psychological resources the individual develops. As a matter of fact, persistence, a temperament dimension similar to the locomotion regulatory mode, acts as a link between a person's temperamental disposition (i.e., temperament profile based on levels harm avoidance, novelty seeking, and reward dependence) and their character development (i.e., character profile based on levels of self-directedness, cooperativeness, and self-transcendence; Cloninger, 2004). In other words, it is possible that, for example, people might develop a sense of autonomy depending on their tendency to persevere and move step by step towards a goal. Without repeated measures or interventions studies, the question of causation remains uncertain.

Our study shows the value of using models that are person-centered when investigating differences between individuals' health. We could observe a kind of "movement" associated to how different psychological resources and self-regulatory strategies might push an individual with one type of affective profile towards another profile. Although only theoretical, this gives an idea of how some leaps might be sudden as quantum leaps (i.e., from one profile at the extreme of the model to the other extreme: black arrows in Figure 2), while other might be serial (i.e., from one profile to another depending on matching affective dimensions: grey arrows in Figure 2). The results also suggest that what marks the direction of the theoretically possible "movement" is which affective dimension is that matches, together with which psychological resources and regulatory strategies that are active.

"That which is in locomotion must arrive at the half-way stage before it arrives at the goal."

Aristotle

Competing Interests

Dr. Danilo Garcia is the Director of the Blekinge Centre of Competence, which is the Blekinge County Council's research and development unit. The Centre works on innovations in public health and practice through interdisciplinary scientific research, person- centered methods, community projects, and the dissemination of knowledge in order to increase the quality of life of the habitants of the county of Blekinge, Sweden. He is also an Associate Professor at the University of Gothenburg and together with Professor Trevor Archer and Associate Professor Max Rapp Ricciardi, the leading researcher of the Network for Empowerment and Well-Being. Erik Lindskär is a research assistant and Ali Al Nima is a statistician at the Blekinge Centre of Competence and together with Dr. Shane MacDonald and Alexander Jimmefors members of the Network for Empowerment and Well-Being.

Data Availability

The raw data is available upon request to the Network for Empowerment and Well-Being, lead researcher Danilo Garcia: http://ltblekinge.se/Forskning-och-utveckling/Blekinge-kompetenscentrum/ Summary-in-English/.

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