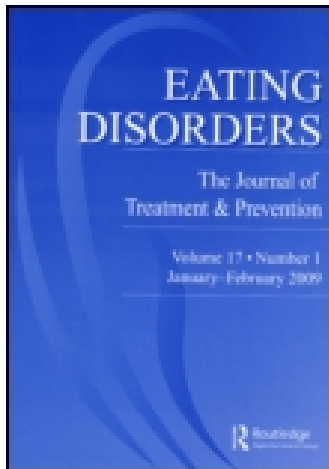


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Satisfaction With Life, Well-Being, and Meaning in Life as Protective Factors of Eating Disorder Symptoms and Body Dissatisfaction in Adolescents

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This study aimed to investigate the relationship among three potential protective factors: satisfaction with life, three routes to well-being and meaning in life, and eating disorder symptoms and body dissatisfaction in male and female adolescents. The sample was composed of 247 adolescent students aged 13 to 18 years. The findings of this study support the protective roles of satisfaction with life and engagement as routes to well-being in male adolescents and particularly in female adolescents. Positive interventions to promote satisfaction with life and engagement in activities in school are highly recommended.

Eating disorders (ED) are highly prevalent among adolescents. Overall, 12% of adolescents have experienced some form of eating disorder (Swanson, Crow, Le Grange, Swendsen, & Merikangas, 2011). The majority of eating disorders had an initial onset between 10 and 20 years of age (Preti et al., 2009), but the peak age of onset was 17–18 years of age for bulimia nervosa and binge eating disorder (Stice, Ng, & Shaw, 2009).

The high prevalence of clinical and subthreshold ED among adolescents establishes these disorders as important public health concerns (Swanson et al., 2011). Prevention programs have targeted the reduction of risk factors and the increase of protective or resilience factors (Levine & Smolak, 2006).

Studies have identified numerous risk factors for the development of eating disorders, such as body dissatisfaction, history of depression,

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weight concerns, ideal thinness internalization, dieting, media influence, negative affectivity, and peer teasing (Levine & Smolak, 2006; Stice et al., 2009).

On the other hand, studies on resilient or protective factors for eating disorders have found that high self-esteem, positive body image, positive self-evaluation, athletic participation, active rejection of the media image of thinness, and empowerment to express opinions and feelings are significant protective factors (Gustafsson, Edlund, Kjellin, & Norring, 2009; Levine & Smolak, 2006). However, the research on protective factors is more limited than the research on risk factors and has not reached conclusive findings. For instance, some forms of athletic participation may constitute risk factors, whereas other forms of athletic participation are protective factors of eating disorders (Smolak, Murnen, & Ruble, 2000).

Most of the research on eating disorder risk and protective factors involves a white female study sample; thus, different factors may exist for males and members of ethnic and cultural minority groups (Levine & Smolak, 2006). In addition, it is important to expand the identification of protective factors so that prevention programs might adopt a more positive focus (Levine & Smolak, 2006). There are other potential protective factors that have been less explored in relation to eating disorders that deserve further study.

Satisfaction With Life

Satisfaction with life is the cognitive evaluation of subjective well-being. This latter concept corresponds to a hedonic perspective of well-being, since it consists of a high frequency of positive affect or joy; the lack of negative feelings, such as depression or anxiety; and a moderate level of satisfaction. Although initially subjective well-being and satisfaction with life were considered to be a result variable, recent developments affirm that these factors are dispositional because the level of emotion is linked to personality and inherited genetic traits (Lucas & Diener, 2009).

There are a large number of studies related to eating disorder symptoms, body image, and satisfaction with life. Satisfaction with life has been negatively related to several eating disorder-related symptoms, such as vomiting, perception of being overweight, binge eating behavior (Matthews, Zullig, Ward, Horn, & Huebner, 2012; Zullig, Pun, & Huebner, 2007), dieting, laxative use (Esch & Zullig, 2008; Valois, Zullig, Huebner, & Drane, 2003), perceived eating control (Greeno, Jackson, Williams, & Fortmann, 1998), and body dissatisfaction (Brannan & Petrie, 2011), in college students, eating disorder patients, younger and older adolescents, and adults. These associations have been particularly strong for female subjects. In most of these studies satisfaction with life was considered a result variable.

Three Routes to Well-Being

Another perspective considers well-being to be focused on virtuous activities and the meaning of life (Peterson, Park, & Seligman, 2005). The eudemonic orientation postulates that people develop their best qualities and use their skills and talents to serve the greater good, particularly, the welfare of others. Research suggests that both hedonic and eudemonic points of view are supported by data (Ryan & Deci, 2001). Considering this, Seligman (2002) proposed the authentic happiness theory (later renamed the well-being theory), in which well-being can be reached by three main routes: a pleasant life or positive emotions, an engaged life, and a meaningful life (Seligman, 2002). The pleasant life corresponds to the hedonic perspective of well-being, or subjective well-being. Seligman (2002) posits that engagement may be enhanced if people identify their greatest talents and strengths and seek opportunities to more frequently use these strengths (signature strengths), and consequently, experience the state of flow. This has been conceptualized as the peak experience of engagement when people are most immersed, focused, and energized (Csikszentmihalyi, 1997). The meaningful life consists of using one's signature strengths and talents to belong to and serve something that one believes is greater than the self.

Most studies that have made use of this theory have focused on the relationships between the three routes and depressive symptoms. Clinically depressed students experienced significantly fewer positive emotions, less engagement, and less meaning in their lives compared to non-depressed psychiatric and non-depressed non-psychiatric persons (Seligman, Rashid, & Parks, 2006). Interventions oriented to the identification and use of strengths have been shown to significantly decrease the levels of mild-to-moderate depression throughout a 1-year follow-up (Duckworth, Steen, & Seligman, 2005; Seligman et al., 2006). The use of strengths has also led to the prediction of fewer symptoms of depression in high school students (Gillham et al., 2011). To date, no study has investigated the relationship of the three routes to well-being and eating disorder symptomatology and body dissatisfaction.

Meaning in Life

Although Seligman (2002) included meaning in life as part of his well-being theory, many authors consider meaning in life to be an independent concept. Meaning in life may be defined as the sense made of, and significance felt regarding, the nature of one's being and existence (Steger, Frazier, Oishi, & Kaler, 2006). Finding less meaning in life has been linked to increased depression, anxiety, trauma, suicidal thoughts, and substance abuse (Laudet, Morgen, & White, 2006; MacDermott, 2010; Steger, Mann, Michels, & Cooper, 2009).

In the area of eating disorders, the existing research on this topic is very limited. Women with symptoms of anorexia nervosa appear to experience

lower existential well-being or meaning in life compared to their non-eating disordered peers (Fox & Leung, 2009). Meaning in life played a protective role with regard to health risk behaviors in Romanian adolescents, however only among females less meaning in life was associated with lack of exercise and diet control (Brassai, Piko, & Steger, 2011). The same authors found that the presence of, and search for, meaning was significantly related to the past frequency of both healthy eating and physical activity as well as to expected future involvement in the same health behaviors in a mixed sample of male and female Eastern European adolescents (Brassai, Piko, & Steger, 2012).

Aims

The aim of this study is to investigate the relationship between satisfaction with life, three routes to well-being and meaning in life with eating disorder symptoms, and body dissatisfaction in male and female adolescents.

It is expected that the three variables will have a strong relation and significant contribution to eating disorder symptoms and body dissatisfaction, in particular for female adolescents.

The importance of the potential role of the three routes to happiness and meaning in life as protective factors of eating disorders lies on the implementation of positive interventions to promote the development and enhancement of these factors. Positive interventions have been successfully implemented in persons with depressive symptoms (Seligman et al., 2006) and could be an interesting new approach to incorporate in the prevention of eating disorders (Steck, Abrams, & Phelps, 2004).

METHOD

Sample

The sample was composed of 247 Argentinean adolescent students (110 males and 137 females) aged from 13 to 18 years old. The students were recruited from private and public secondary schools in the city of Buenos Aires. The mean age was 15.47 years old ($SD = 1.57$ years old). The mean BMI for boys was 21.77 ($SD = 3.44$) and for girls was 20.61 ($SD = 2.82$).

Instruments

Demographic and eating related data. A brief demographic questionnaire was developed to assess demographic variables (gender, age, educational level of parents, parental occupation, place of residence, year in school) and variables related to eating pathology (weight, height, weekly frequency of dieting behavior [0–7] and weekly frequency of physical activity [0–7]).

Three Routes to Well-Being Scale. The Three Routes to Well-Being Scale (ERBIEN abbreviation from the original in Spanish: Escala de tres rutas del bienestar). This scale assesses well-being based on the three pillars model developed by Seligman (2002). This scale includes 19 statements that are rated on a 5-point Likert scale ranging from 1 (*very different from me*) to 5 (*very similar to me*). The scale is divided into three subscales that correspond to each of the routes to well-being: Pleasant life (7 items, e.g., “I try to repeat the pleasant moments over and over”), engaged life (6 items, e.g., “I have a clear view of my goals in life and I work hard to achieve them”), and meaningful life (6 items, e.g., “I use my strengths to accomplish things that benefit society”). The scale was developed and validated using Argentinean adults (Castro Solano, 2011). The version for adolescents maintains the same factorial structure, showing good evidence of factorial and convergent validity (Góngora, 2012). The internal consistencies for this sample were pleasant life, $\alpha = .76$, engaged life, $\alpha = .80$; and meaningful life, $\alpha = .70$.

Meaning in Life Questionnaire (MLQ). This is a 10-item scale that assesses the extent to which respondents feel their lives are meaningful (Steger et al., 2006). The MLQ is composed of two independent subscales: Search and presence of meaning. Each dimension of meaning is measured by 5 items rated from 1 (*absolutely untrue*) to 7 (*absolutely true*). The two factor structure of the MLQ was replicated via confirmatory factor analyses in multiple samples (Steger et al., 2006; Steger, Oishi, & Kashdan, 2009). In this study, the Spanish version of the instrument was used. A validation study replicated the two factor structure in exploratory and confirmatory factor analyses (Góngora & Castro Solano, 2011). Internal consistencies for the subscales were $\alpha = .82$ for presence and $\alpha = .88$ for search.

Satisfaction With Life Scale (SWLS). This scale consists of 5 items that assess the respondent’s overall satisfaction with life (Diener, Emmons, Larsen, & Griffin, 1985). Respondents rate each item from 1 (*strongly agree*) to 7 (*strongly disagree*). The SWLS is one of the most widely used well-being measures, and various international empirical studies have demonstrated its validity and reliability (Pavot, Diener, Colvin, & Sandvik, 1991). In this sample, the internal consistency measured by Cronbach’s alpha was $\alpha = .75$.

Eating Disorders Inventory-2 (EDI-2). This 91-item inventory (Garner, 1991) consists of eight primary subscales to measure the different aspects of the symptomatology, or psychological features specifically related to, eating disorders. The EDI-2 also contains three additional subscales. In this study, only the three scales related to eating symptomatology were used: Drive for thinness, bulimia, and body dissatisfaction. The Spanish adaptation of this instrument was used in this study. Adaptation studies have also shown this inventory to discriminate between the clinical and normal population, males and females, and different age groups (Casullo, Castro Solano, &

Góngora, 1996). In this sample, internal consistencies for the three subscales were: Drive for thinness, $\alpha = .85$; bulimia, $\alpha = .75$; and body dissatisfaction, $\alpha = .86$.

Procedure

Participants were informed of the purpose of the investigation, and their parents provided informed consent. No further incentives were provided for participation. Approximately 80% of the invited students received parental consent to participate in the study. The instruments were administered in the students' own classes during the school day under the supervision of the research staff. There was a maximum of 30 students per class group. Those students who did not participate in the study completed academic exercises. All of the tests were completed in a single session.

RESULTS

Preliminary Analysis: Descriptive Statistics, Correlations Among Variables, and Differences by Gender

The means and standard deviations of the variables used in this study for male and female adolescents are presented in Table 1. Students' *t*-tests were performed to compare these variables by gender. Results showed no significant differences between male and female adolescents for most of the protective factors. The only significant difference was found in satisfaction with life (SWLS), in which males scored significantly higher than females; however, the magnitude of the difference was small.

TABLE 1 Means, Standard Deviations, and *t*-Tests of Research Variables by Gender

Variable	Males mean (<i>SD</i>)	Females mean (<i>SD</i>)	<i>t</i>	Cohen's <i>d</i>
SWLS	25.47 (6.23)	23.38 (6.44)	2.56*	.32
MLQ-P	24.25 (6.35)	22.67 (7.01)	1.82	.22
MLQ-S	18.80 (7.38)	19.69 (7.88)	-.91	-.11
Pleasant life	4.01 (.70)	3.84 (.74)	1.76	.22
Engaged life	3.89 (.78)	2.75 (.81)	1.34	.17
Meaningful life	3.18 (.77)	3.06 (.76)	1.24	.16
Drive for thinness	5.26 (4.65)	8.55 (6.04)	-4.73***	-.54
Bulimia	3.15 (3.75)	3.49 (3.25)	-.74	-.09
Body dissatisfaction	7.04 (5.42)	11.40 (6.82)	-5.46***	-.64
Weekly frequency of physical activity	3.53 (1.83)	2.53 (1.36)	4.78***	.54
Weekly frequency of dieting	.84 (1.85)	.85 (1.85)	-.03	-.01

Note: * $p < .05$; ** $p < .01$; *** $p < .001$.

SWLS = satisfaction with life; MLQ-P = meaning in life-presence; MLQ-S = meaning in life-search.

Concerning the eating disorder related variables, female adolescents had significantly higher scores in body dissatisfaction (BD) and drive for thinness (DT), while male adolescents scored significantly higher in physical activity. These differences were moderate.

Correlations among research variables were calculated by gender and are presented in Table 2. In general terms, there are no major differences in the correlations among variables for the male and the female sub-samples. Positive correlations were found among symptom variables and among protective factors. Negative correlations were detected between symptom variables and protective factors. However, one exception must be noted: The frequency of physical activity seems to be a positive behavior in male adolescent and is associated with lower body dissatisfaction ($r = -.24$) and higher protective factors (r range = .18 to .25), while in female adolescents, it is associated with diet ($r = .26$) and a lower search for meaning ($r = .17$). However, the latter association was small. The magnitudes of the correlations were small to moderate for all of the variables, with the exception of the relation between body dissatisfaction and drive for thinness, which was strong, in particular, for the female subsample ($r = .75$).

Relationship Between Protective Factors and Eating Disorder Symptoms and Body Dissatisfaction

Accounting for the differences previously determined for gender in the eating disorder symptomatology variables, linear regressions were carried out separately for each sex. A series of linear regressions were calculated using drive for thinness, bulimia, body dissatisfaction, weekly frequency of dieting and weekly frequency of physical activity as dependent variables and the SWLS, ERBIEN, and MLQ scales as predictors. The results are presented in Table 3.

Drive for thinness. No significant model emerged for drive for thinness for males. A significant model was found for this variable in the female subsample explaining a 7% of variance and satisfaction with life (SWLS) was the only significant predictor.

Bulimia. Concerning this variable, no significant model emerged either for males or for female adolescents.

Body dissatisfaction. In the case of the male subsample, a significant model emerged explaining an 11% variance; however, none of the predictors introduced were shown to be significant. In the female subsample, a significant model explained a 17% variance, with the SWLS, the engaged life and the meaningful life being significant predictors.

Weekly frequency of dieting. No significant model emerged for dieting behavior in either subsample.

Weekly frequency of physical activity. In the case of physical activity, a model emerged only for the male sub-sample, with Engaged Life being the

TABLE 2 Correlation Among Research Variables

Variable	1	2	3	4	5	6	7	8	9	10	11
1. DT		.27**	.73***	-.32***	-.19*	.15	.02	-.13	-.02	.08	.45***
2. BUL	.26**		.28***	.22*	-.21*	.18*	.08	-.01	-.01	-.03	.16
3. BD	.59***	.32***		-.34***	-.25**	.12	-.15	-.27**	.02	-.03	.38***
4. SWLS	-.17	-.26***	-.25**		.45***	-.22**	-.03	.27***	.19*	.01	-.10
5. MLQ-P	-.15	-.20*	-.12	.40***		-.10	.05	.43***	.30***	.07	-.01
6. MLQ-S	.11	.03	.07	-.13	-.09		.16	-.06	.21*	-.17*	-.01
7. PLEAS	-.14	.04	-.25**	.17	.17	.03		.20*	.13	.03	-.07
8. ENGAG	-.14	-.10	-.28**	.32***	.51***	-.25**	.52***		.36***	.13	.06
9. MEAN	.06	-.04	.01	.03	.29**	.16	.29**	.31***		.06	.04
10. PHYS	-.11	-.11	-.24*	.18*	.25**	-.21**	-.05	.25**	.08		.26**
11. DIET	.43***	.03	.23*	.11	.03	.04	.04	.06	.02	.17	

Note: DT = desire for help; BUL = bulimia; BD = B=body dissatisfaction; SWLS = satisfaction with life; MLQ-P = meaning in life-presence; MLQ-S = meaning in life-search; PLEAS = pleasant life; ENGAG = engaged life; MEAN = meaningful life; PHYS = physical activity; DIET = dieting.

Correlations coefficients below the diagonal correspond to the male-subsample and correlations coefficients above the diagonal correspond to the female-subsample.

* $p < .05$; ** $p < .01$; *** $p < .001$.

TABLE 3 Linear Regression for Eating Symptomatology Variables and Body Dissatisfaction

Dependent variable	Predictors	R ²	Adj. R ²	F	β	T
Drive for thinness						
Males		.08	.02	1.39		
Females		.11	.07	2.68*		
	SWLS				-.28	2.86**
	MLQ-P				-.05	-.46
	MLQ-S				.07	.73
	Pleasant life				.01	.09
	Engaged life				-.06	-.59
	Meaningful life				-.06	-.66
Bulimia						
Males		.09	.04	1.72		
Females		.09	.05	2.05		
Body dissatisfaction						
Males		.16	.11	3.09**		
	SWLS				-.20	-1.87
	MLQ-P				.06	.49
	MLQ-S				.02	.18
	Pleasant life				-.18	-1.65
	Engaged life				-.22	-1.73
	Meaningful life				-.14	-1.32
Females		.21	.17	5.34***		
	SWLS				-.29	-3.19**
	MLQ-P				-.09	-.98
	MLQ-S				-.01	-.15
	Pleasant life				-.15	-1.81
	Engaged life				-.20	-2.13*
	Meaningful life				-.18	-1.98*
Physical activity						
Males		.17	.11	3.39**		
	SWLS				.06	.63
	MLQ-P				.15	1.29
	MLQ-S				-.09	-.97
	Pleasant life				-.18	-1.69
	Engaged life				.28	2.16*
	Meaningful life				-.15	-1.51
Females		.05	.01	1.20		
Dieting						
Males		.02	-.04	.35		
Females		.03	-.01	.69		

Note: * $p < .05$; ** $p < .01$; *** $p < .001$.

SWLS = satisfaction with life; MLQ-P = meaning in life-presence; MLQ-S = meaning in life-search.

significant predictor. No significant model was found for this variable in the female sub-sample.

DISCUSSION

The results of this study showed specific relationships between potential protective factors—three routes to well-being, satisfaction with life, and meaning

in life—and eating disorder related variables. First, only some of the eating disorder related variables were negatively associated with the protective factors included in this study: Drive for thinness, physical activity, and body dissatisfaction. Second, the relationship among protective factors and eating variables also differed according to gender. This finding is consistent with previous studies regarding gender differences in protective factors, for instance, in body image (Grogan, 2010). These associations were stronger in women, as predicted, and the amount of explained variance in these factors was larger for female adolescents. However, the frequency of physical activity was higher in males and had significant associations with protective factors, whereas for female adolescents it was not significantly related to any of the selected protective factors.

Among the potential protective factors selected in this study, dissatisfaction with life and lack of engagement were the most relevant predictors of eating related symptoms and body dissatisfaction. The importance of satisfaction with life is consistent with previous findings in middle school and high school students (Esch & Zullig, 2008; Valois et al., 2003). A high level of satisfaction with life was associated with lower body dissatisfaction and lower desires to be thinner in female adolescents and was a significant predictor of these variables.

Although dissatisfaction with life was related to drive for thinness, the amount of variance explained by satisfaction with life was not found to be high in this study (only 7%). Other studies found similar results concerning the prediction of this variable based on satisfaction with life (Matthews et al., 2012). Nevertheless, because drive for thinness is usually related to a risk of eating disorders in women (Garner, 1991), the importance of satisfaction with life seems to be limited for the prevention of risk in female adolescents and other protective factors should be targeted in prevention programs to modify preoccupation with weight and the intense fear of gaining weight.

Dissatisfaction with life was found to have a stronger relationship with body dissatisfaction in female adolescents. This is relevant because several studies found body dissatisfaction to be a key variable in the development of eating disorders (Stice, Marti, & Durant, 2011). Because one of the main targets of prevention programs is the reduction of body dissatisfaction, the inclusion of interventions to promote satisfaction with life in adolescent girls may have a protective effect on body image.

It should be noted that the selected protective factors were relevant in the prediction of body dissatisfaction in male adolescents as well, although none of these factors could be identified as a significant predictor. Although there is ample evidence regarding differences in body image between men and women (Grogan, 2010), the type of measure used in this study (EDI-2) is more related to worries about the body shape and size of women than of men (Darcy & Lin, 2012), which is an important limitation based on the impact it might have on the male scores.

Among the three routes to well-being, only engagement, and to a lesser degree meaning, were significant predictors of body dissatisfaction. Both routes correspond to the eudemonic perspective of well-being, which has been found to be the most strongly correlated with satisfaction with life (Delle Fave, Brdar, Freire, Vella-Brodrick, & Wissing, 2011; Peterson et al., 2005).

In particular, engagement seems to be an interesting potential protective factor, although its effect on variables differs according to gender. Female adolescents who had goals and used their strengths to achieve them had lower body dissatisfaction. In the case of male adolescents, a higher frequency of physical activity was related to stronger engagement. Engagement includes commitment, perseverance, social integration, and absorption (Peterson et al., 2005). Previous studies also noted the importance of engagement as a protective factor in adolescents (Froh et al., 2010).

The results of the current study are mixed regarding meaning in life. Meaningful life as a route to well-being, defined as the use of personal strengths to serve the social environment beyond oneself, was related to body dissatisfaction but not to a large degree. However, meaning in life (search and presence) as an independent concept was not related to body dissatisfaction or to eating symptoms. This finding differed from the studies of Brassai et al. (2011, 2012) in which meaning in life was a significant predictor of dieting and physical activity. However, it should be noted that they used a mixed sample of boys and girls, which may distort the results. Further exploration of meaning in life in this population is required to establish the potential importance of this variable as a protective factor of eating symptoms and body dissatisfaction.

Some limitations of this study must be mentioned. This study was carried out with a particular cultural group, Argentinean adolescents; thus, the results must be reexamined in other socio-cultural groups of adolescents. A larger, nationwide sample would allow us to better examine the stability and generalizability of these findings. In addition, some studies affirmed that males are less likely than females to have a drive for thinness and are more likely to strive for lean muscularity (Darcy & Lin, 2012). Because striving for lean muscularity was not measured in this study, future research should analyze the relationship of this variable using appropriate measures designed for males, with potential protective factors for male adolescents.

In summary, this study aimed to examine three potential protective factors, satisfaction with life, three routes to well-being, and meaning in life, in relation to eating symptoms and body dissatisfaction in adolescents. The findings of this study support the protective roles of satisfaction with life and engagement as routes to well-being in male adolescents and, particularly, in female adolescents. Positive interventions to promote satisfaction with life and engagement in activities in school are highly recommended. These interventions must be applied while accounting for gender differences

in body dissatisfaction and physical activities. Positive interventions can be easily combined with existing prevention programs such as those aiming to increase self-esteem or those with a feminist-empowering orientation.

There are several interventions that have been found to increase life satisfaction and engagement at schools (Gilman, Huebner, & Furlong, 2009). Interventions that target person-centered factors, such as dispositions (e.g., cognitive focus on positive aspects of life and goals) and resources (e.g., character strengths), have shown to increase life satisfaction and engagement (Suldo, Huebner, Friedrich, & Gilman, 2009). Some possible applications could be classroom writing assignments; for instance, teachers may consider giving writing assignments on gratitude visits or journaling about the positive aspects of one's life. In addition, character education programs may benefit from including lessons on how to develop specific character strengths, such as kindness and compassion to others as well as to one's self (Park & Peterson, 2009). Another intervention that has been shown to increase engagement, meaning, and life satisfaction is the identification of one's strengths through the VIA Inventory of Strengths for Youth (VIA-Youth). Once the strengths have been identified, students are asked to use their strengths inside and outside school settings. Furthermore, they can be asked to use them in a different or novel way (Seligman et al., 2006). The focus in these interventions is not only to identify strengths but also to put them in action, as applying signature strengths also cultivates flow. In addition, interventions to increase participation of students in school-sponsored and out-of-school extracurricular activities also help to increase engagement and flow (Norrish, Williams, O'Connor, & Robinson, 2013).

Besides, it would be important to improve the quality of interpersonal relationships (e.g., family, teacher, and peer support) as it is essential to sustain the interventions for increasing life satisfaction and engagement (a more detailed description of the relationship among these variables can be found in Gilman et al., 2009).

Finally, it would be important to evaluate the implementation of positive interventions for the prevention of eating disorders in order to assess their contribution to the reduction of risk factors (e.g., body dissatisfaction). Follow up studies are also needed to determine the impact of these interventions longitudinally.

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