A dual-factor model of mental health and social support: evidence with adolescents in residential care

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1. Introduction

According to the positive psychology background, the focus on constructive dimensions of individual functioning implies a critical change on the paradigm from the merely analysis focused on individual pathology (and on the need to repair the damage) to an approach focused on self-actualization and well-being (Seligman & Csikszentmihalyi, 2000). Despite the progressive investment in this area, the study of distress and disorders has been greater than in the positive individual functioning. As such, in order to address the limitations of traditional models of mental health, a range of theoretical models, with different labels but focused on the same conceptual meanings, has emerged from the positive psychology framework. For instance, there are authors proposing a Dual-factor system of mental health (Greenspoon & Saklofske, 2001), others the The two continua model of mental illness and health (Westerhof & Keyes, 2010) and others the Dual-factor model of mental health (Wang, Zhang & Wang, 2011). All these models suggest that mental health must be viewed as a complete state, reflecting the integration of a positive (well-being) and a negative (psychopathology) dimension of adjustment, in two continuums but related factors (Wang et al., 2011; Westerhof et al., 2010).

This conceptualization of mental health has been empirically tested and results supported the model with two separate dimensions (Keyes, 2005; Wilkinson & Walford, 1998). This evidence of a dual-factor model of mental health allows the classification of

individuals and the emergence of diverse groups with distinct status of mental health (Wang, et al., 2011). Different approaches of classification could be adopted, with the quartered classification theory suggesting that mental health status can be understood in four groups: 1) *Complete mental health* [average/high well-being and low psychopathology]; 2) *Vulnerable* [low well-being and low psychopathology]; 3) *Symptomatic but content* [average/high well-being and high psychopathology] and 4) *Troubled* [low well-being and high psychopathology] (Suldo & Shaffer, 2008; Suldo, Thalji & Ferron, 2011). These options of classification allowed addressing some limitations of traditional theoretical models of mental health. For instance, people that reveal low levels of psychopathology but reveal also low levels of well-being are typically overlooked in terms of mental health by these models, and consequently, they tend to have less support from services (Suldo & Shaffer, 2008). As such, the absence of psychological problems is not a sufficient condition to show higher levels of mental health (Suldo, Thalji & Ferron, 2011).

Analyzing how mental health outcomes varies according to supportive relationships during adolescence, results suggest that youth in the group of *Complete mental health* (or Positive mental health as the authors named this group) reported greater perceived support from family than all other groups, and from peers compared with *Vulnerable* and *Troubled* groups. The *Symptomatic but content* group showed significantly higher support from family, peers and teachers than *Vulnerable* and *Troubled* groups (Antaramian, Huebner, Hills & Valois, 2010). These results may underline the importance of perceived social support as a protective factor (Sarason, Levine, Basham & Sarason, 1983), and the importance of interpersonal relationships to the psychological adjustment in the adolescence (Ackard, Neumark-Sztainer, Story, & Perry, 2006; Moon & Rao, 2010).

Specifically, considering the young people in residential care, mental health conceptualization and measurement is particularly challenging. In this manuscript we are particularly focused on young people who were taken from their families and placed in care as derived from their need of alternative protection. As such, it is relatively consensual that young people in care have increased developmental challenges compared with normative youth. Not only they might overcome difficulties arising from their previous vulnerability and risk experiences, they also must deal with their current living conditions, and with those developmental challenges that all young people have to deal with (Jansen, 2010). In fact, the literature with young people in residential care reveals that they are a vulnerable group in what concerns mental health outcomes, since they show significant emotional and behavioral difficulties (Kjelsberg & Nygren, 2004; Simsek, Erol, Öztop & Münir, 2007; Schmid, Goldbeck, Nuetzel & Fegert, 2008). On the other hand, the research on mental health in care following a positive framework and focused on human potential and well-being has been less developed (Dinisman, Montserrat & Casas, 2012). The studies with young people in residential care (those who were taken from their families derived from protection reasons) reveal that worse subjective well-being tends to be reported by young people in care, even with slightly different results. Some of them reveal significant lower scores on overall life satisfaction and specifically considering a set of indicators of subjective well-being (e.g., health, school, social relations) (Dinisman, et al., 2012; Llosada-Gistau, Montserrat & Casas, 2014). Others reported significant differences merely on specific dimensions of well-being - i.e., significant differences were found on negative affect but neither on positive affect nor on life satisfaction (Poletto & Koller, 2011). Moreover,

Although these results are very important for understanding mental health outcomes in care, an integrated and holistic approach is needed (i.e., considering both

mental distress and well-being). As such, in this work we go beyond the traditional models of mental health focused merely on the absence of difficulties, emphasizing our analysis also on aspects of self-actualization and well-being (Seligman & Csikszentmihalyi, 2000; Wang et al., 2011). Similarly, given the significant relevance of supporting relationships for mental health (Chu, Saucier & Hafner, 2010), and consistently with previous evidence using a dual-factor model approach (Antaramian, et al., 2010), we will explore the relationship between different status groups of mental health and a set of social support components and resources (i.e., formal and informal). Both types of social support are relevant, given that young people in residential care identifies different sources of support, peers or adults both from care settings and outside (e.g., biological family, school) (Bravo & Del Valle, 2003). Generally, these supportive relationships are important for youths' mental health being associated with fewer adjustment problems (Pinchover & Attar-Schwartz, 2014); in contrast, the lack of supportive caregiving is related to more mental health problems (Erol, Simsek & Munir, 2010). These supportive relationships may help these adolescents to deal with difficulties and challenges during their developmental trajectories (Bravo & Del Valle, 2003; Martin & Dávila, 2008).

2. Research problems and objectives

As we postulated before, the literature with young people in residential care tends to be more focused on negative outcomes, and less in positive functioning. On the other hand, the literature that has been testing paradigms focused on these two dimensions of mental health (i.e., dual-factor models of mental health) are mostly focused on measures of subjective well-being (i.e., life satisfaction, positive affect) (Antaramian, et al., 2010), and lesser on eudaimonic dimensions. Moreover, those

studies that include psychological well-being dimensions tend to be developed with adults, less evidence existing with adolescents (Keyes, 2006). Besides, to our best knowledge, the studies developed within this theoretical paradigm do not include adolescents in care, and for that reason, in the present study we are looking for evidence on mental health as a complete state with this population. As such, this study aims to: 1) test the suitability of a dual-factor model with young people in care; and to 2) explore how different mental health groups may differ on social support dimensions from different sources (formal and informal).

3. Method

3.1. Participants

A sample of 369 Portuguese adolescents (54% males), from 59 residential care settings, participated in this study (M = 14.75; SD = 1.83). These adolescents came from at-risk families characterized mainly by neglectful parental practices (66%). Also, additional risk factors were also found in these families, namely, unemployment (47%), parental divorce or separation (36%) and alcohol abuse (35%). The placement in the present residential setting is the first one for 57% of these young people. These residential settings, as defined by our law, aim to "contribute to the creation of conditions that guarantee the adequate physical, psychological, emotional and social needs of children and young people and the effective exercise of their rights, favouring their integration in a safe socio-familial context and promoting their education, well-being and integral development" (Law 142/2015, p. 7221). Moreover, these settings may be specialized namely, therapeutic settings or apartments for autonomy. In this work we did not include specialized settings. All residential care settings included in this study are dealing with youth who were taken from their families for protection

concerns. These settings vary significantly in their dimension (there are larger facilities with 45 children but also smaller units with 6 children), and are diverse in their typology, namely, including settings for both sexes (42%), others that receive merely female children/youth (25%), and finally others that receive merely male children/youth (32%).

3.2. Measures

3.2.1. Questionnaire of Institutional Support

Formal social support was assessed using an adapted version of the Questionnaire of Institutional Support (Calheiros & Paulino, 2007; Calheiros, Graça, Patrício, Morais & Costa, 2009). Three dimensions of functional support were assessed (23 items), each of them considering both social workers and educators: 1) Esteem - it involves young people perceptions that they are valued by social workers/educators (6 items, e.g. "Do you think that in this institution social workers/educators value you as a person?"), 2) Emotional/relational - it involves young people perceived concern, care and empathy from social workers/educators (7 items, e.g. "To what extent do you think social workers/educators are available to attend you?"), and 3) Evaluative/informational - it involves young people perceived information, guidance or feedback provided by social workers/educators that can help them to solve a problem (7 items, e.g. "Do you think that in this institution the social workers/educators well evaluate your problems?"). Young people might answer each item using a scale from Never (1) to Ever (5) (Calheiros & Paulino, 2007; Calheiros et al., 2009). This scale revealed adequate reliability and validity evidence (Reference deleted for blind review).

3.2.2. Social support questionnaire

Informal social support was assessed in terms of perceived satisfaction and availability of social support using a short version of the Social Support Questionnaire (Sarason, Levine, Basham & Sarason, 1983) adapted to the Portuguese context by Moreira, Andrez, Moleiro, Silva, Aguiar and Bernardes (2002). This questionnaire contains six items that allows the assessment of these two dimensions of perceived social support: 1) the perceived availability (i.e., the number of individuals who are available to provide support) and 2) the perceived satisfaction (i.e., the perceived satisfaction with this support). Each item requires two answers: 1) the participants list the number of people who may support them using a scale from (0) "Nobody" to (9) "Nine people"); and 2) they might indicate their degree of satisfaction with that support (on a scale from (1) "very dissatisfied" to (6) "Very satisfied") (Moreira et al., 2002; Sarason et al., 1983). Validity and reliability evidence was found in residential care (Reference deleted for blind review).

3.2.3. Reynolds Adolescent Adjustment Screening Inventory (RAASI).

In the present study a Portuguese version of the RAASI, translated and adapted for youth in residential care (Calheiros et al., 2009) was used. A four dimensional structure composed by 22 items was obtained in a previous study testing construct validity of this measure (Reference deleted for blind review): Antisocial Behaviour (youth's troubled behaviours in different contexts, 6 items; *Cronbach's Alpha*= .78); Anger control problems (youth's oppositional behaviours, 5 items; *Cronbach's Alpha*= .72); Emotional distress (youth's general distress, excessive anxiety and worry, 7 items; *Cronbach's Alpha*= .81), and Positive Self (difficulties of self-esteem and sociability, 4 items; *Cronbach's Alpha*= .58). Those 4 items from Positive self are written in a positive way, which means that they should be reversed to reflect psychological

problems. The items are answered in a three-point scale, from 1 (Never or almost never), 2 (Sometimes) to 3 (Nearly all the time) (Reynolds, 2001; Calheiros et al., 2009).

3.2.4. The Satisfaction with Life Scale

The Portuguese version of this scale was used to assess the adolescents' perception about their life circumstances and quality of life (Neto, 1993). This scale involves five items answered in a 7 point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Reliability evidence exists in the Portuguese context with a *Cronbach' Alpha* of 0.78 (Neto, 1993).

3.2.5. Scales of Psychological Well-being

The Portuguese shortened version of Scales of Psychological Well-Being (adolescents' version) was used in this study (Fernandes, Vasconcelos-Raposo & Teixeira, 2010). This version is composed by 30 items (answered in a Likert 5-point scale, from 1 - strongly disagree to 5 -strongly agree) and assess six dimensions, consistently with the theoretical premises: 1) Autonomy: includes aspects of self-determination and independence, as well as skills to resist to external pressures and to regulate the individual behavior; 2) Environmental mastery: refers to the individual capacity to manage the environment in which he/she is integrated, as well as to make important decisions to meet his/her needs and personal values; 3) Personal growth: refers to the individual perception about the possibility to improve his/her skills and knowledge and to develop his/her potential, as well as the openness to experience; 4)

Positive relations with others: involves the individual perception that he/she has trust and secure relationships with significant others, and that he/she is able to develop bonds of affection and intimacy; 5) Purpose in life: implies the subject's perception that there is a set of objectives and directions in his/her life that give meaning to individual past and present experiences; and finally, 6) Self-acceptance: refers to an individual's positive attitude to face himself, accepting the multiple aspects of the self and positively integrating his/her past events of life (Ryff, 1989; Ryff & Singer, 1996).

Evidence of validity and reliability were reported for the Portuguese version (Fernandes et al., 2010), as well as with young people in residential care (Reference deleted for blind review). Based on this evidence, a four-dimensional structure of psychological well-being was used in this study (19 items): Personal growth (5 items), Positive relations with others (5 items), Self-acceptance (5 items) and Purpose in life (4 items) (Reference deleted for blind review).

3.3. Procedures of data collection and analysis

As part of a broader research project, this study was developed with adolescents in residential settings. Formal contacts allowed the necessary authorisations to collect data, and all adolescents placed in these settings (aged from 11 to 18 years old) were invited to participate, except: 1) if they participated in other studies from the broader project; or 2) if they had significant cognitive impairment inhibiting them autonomously participate. The first author articulated with a professional from the residential setting, informing him/her about the selection criteria of the sample recruitment and the professional invited the young people to participate in the study. Then, on a date scheduled according to the availability of young people, the first author collected the data in each residential setting and a consent form was requested from adolescents and

professionals. Confidentiality and voluntary nature of their participation was guaranteed. From a total sample of 1259 children and adolescents placed in the residential settings, 438 both fulfil the selection criteria and accepted to participate in the study. Merely 369 participants were considered in the present manuscript given that these were the participants who completed all the necessary questionnaires. Ethical approval was provided by the Scientific Commission of the research centre and from the ethical committee of the university.

In order to achieve the first objective in this study - to test the suitability of a dual-factor model on mental health with young people in residential care - first, we analyze how the theoretical assumptions of two independent but related factors fit the data with this population (N=369). A confirmatory factor analysis will be tested in order to verify if a dual-factor model is better or worse than a single continuum model of mental health. Consistent with previous studies, we will test both models (one-dimensional and two-dimensional models), and in the case of two-dimensional models we will test orthogonal and oblique solutions (Keyes, 2005). The dual-factor model of mental health includes the following constructs: 1) Well-being – this factor comprises four dimensions of psychological well-being (i.e., Personal growth, Positive relations with others, Purpose in life, and Self-acceptance) and one dimension of subjective well-being (i.e., life satisfaction); 2) Psychopathology – this factor includes the four dimensions of the adjustment screening inventory of Reynolds (i.e., positive self, anger control problems, antisocial behavior and emotional distress), consistent with externalizing and internalizing syndromes on psychopathology (Reynolds, 2001).

After this first step, in which we tested the dual factor model adequacy with youths in residential care, we performed a second step, in which we analyzed how different groups of mental health may show diverse levels of social support: a) informal

support availability (i.e., sufficient number of available sources of support) and satisfaction (i.e., the individual satisfaction with support); b) three contents of formal support, each one responded for social workers and educators: esteem (i.e., young people perceptions that they are valued by social workers/educators), emotional/relational (i.e., young people perceived concern, care and empathy from social workers/educators) and evaluative/informational (i.e., young people perceived information, guidance or feedback provided by social workers and educators) (Calheiros et al., 2009; Calheiros & Paulino, 2007).

In line with previous research, a classification on mental health was performed in order to identify in the present sample those groups that were previously explored in the literature (Suldo et al., 2011). Initially, a composite of both scales was calculated according to two dimensions obtained in the previous confirmatory analysis, and then a descriptive analysis was performed to explore the data. On Well-being dimension, young people scores ranged from 56 to 128 points (*M*= 95.74; *SD*= 14.44) and on Psychopathology they scored from 18 to 54 points (*M*= 30.80; *SD*= 6.62). In order to identify groups of young people scoring high and low in these dimensions of mental health, percentiles analysis was performed: Well-being [percentile 30 – score 88 (Low well-being); percentile 70- score 103 (High well-being)] and Psychopathology [percentile 30 – score 27 (Low psychopathology); percentile 70- score 34 (High psychopathology)].

Based on these percentiles, four groups were computed: *Complete mental health* [high well-being and low psychopathology; N=41]; *Vulnerable* [low well-being and low psychopathology; N=28]; *Symptomatic but content* [high well-being and high psychopathology; N=30] and *Troubled* [low well-being and high psychopathology;

N=53]. As only extreme scores were considered to create these four groups, the majority of young people did not belong to any group (217; 59%).

4. Results

4.1. First step: validity and reliability evidence of a dual-factor model with young people in care

4.1.1. Descriptive statistics

Prior the analysis of the measurement model, a set of descriptive statistics was performed to understand the nature of the relationships between the indicators that will be included in the model. The analysis of the ratio *Skewness/Std Error* revealed that there was a set of dimensions that did not show values too close the range -2 and 2 (Table 1). However, it was found that the absolute values of *skewness* were lower than 3 what can be considered as non-problematic in terms of distribution (Kline, 2005).

INSERT TABLE 1 HERE

4.1.2. Correlation analysis

Different patterns of associations were found between psychopathology and well-being indicators, with emotional distress being negative and significantly associated with Life Satisfaction; Antisocial behavior was negative and significantly associated with Personal Growth; and finally, Anger control problems was negative and significantly associated with Personal Growth and Personal Relations with others.

Negative and significant correlations were found between Positive self and all dimensions of well-being (Table 2). Positive and significant correlations were found between all indicators of well-being, and between all indicators of psychopathology (except between Positive Self and Anger control problems and Antisocial behavior).

INSERT TABLE 2 HERE

4.1.3. Confirmatory factor analysis

A first two-dimensional model was tested - consistent with previous evidence that propose a model with two related factors (Keyes, 2005; 2006). This model reveals some weak fit statistics ($\chi 2/df = 7.18$, $p<.001$; GFI= .90; CFI=.85; RMSEA= .130; CI90% [.112; .147]), with Positive Self (reversed) showing non-significant regression weights with the dimension of Psychopathology ($\beta= .094$, SE= .045, $p=.10$). For that reason, this dimension was removed from the analysis, maintaining merely the other dimensions with significant regression weights. As such, three new models were tested: two-dimensional and oblique, two-dimensional and orthogonal, and a one-dimensional model. Looking at the fit statistics in the Table 3, we can see that both two dimensional models revealed higher and satisfactory CFI and GFI coefficients than the one-dimensional model, considering the common criteria (Hu & Bentler, 1999; Schermelleh-Engel et al., 2003). Also, analyzing AIC and ECVI we found that lower values were observed on the two-dimensional model (oblique), suggesting that this is the best model.

INSERT TABLE 3 HERE

4.1.4. Reliability evidence

Internal consistency was tested on these two factors, and acceptable values of *Cronbach's Alpha* were found: Psychopathology (.72) and Well-being (.70).

4.2. Second step: how mental health status and social support are related to?

4.2.1. Young people's individual characteristics and placement history by mental health status group

In terms of young people's characteristics considering these four groups, data reveals that they varies significantly only in terms of placement length ($F(3,141)= 5.19$, $p<.01$). Results reveal that young people on the *Troubled* group showed lower length of placement than young people of the *Complete mental health* group (Table 4).

INSERT TABLE 4 HERE

4.2.2. Group differences on social support variables

A set of assumptions were firstly analyzed in order to decide if a multivariate analysis can be performed. No problems of multicolinearity were found, however the Box's test of equality of covariance matrices ($M=235.28$; $F(108, 5763.23)= 1.70$; $p<.001$) revealed a significant p-value. Also, the Levene's test of equality of error variances was significant for two dimensions: Perceived satisfaction with social support ($F(3,85)= 9.63$; $p<.001$) and Institutional support from educators in the Relational dimension ($F(3,85)= 3.32$; $p<.05$). Six dimensions revealed a non-significant p-value on Levene's test of equality of error variances - Esteem support from educators ($F(3,85)= .772$; $p=.513$), Evaluative support from educators ($F(3,85)= 1.95$; $p=.127$), Availability of social support ($F(3,85)= .838$; $p=.477$), Esteem support from social workers ($F(3,85)= .721$; $p=.542$), Evaluative support from social workers ($F(3,85)= .928$; $p=.431$) and Relational support from social workers ($F(3,85)= 1.73$; $p=.166$).

Since some problems on the homogeneity of variances were found, parametric (Mancova) and non-parametric (Kruskal-Wallis Test) tests were performed. Then, considering that the results were similar for all dimensions (i.e., significant differences were found across groups in all dimension both in the parametric and non-parametric analysis), parametric results will be reported. A Mancova was used in order to control for length of placement since previous significant differences were found on these dimensions by groups. Wilks Lambda revealed statistically differences between groups of mental health, considering dimensions of perceived social support (Wilks Lambda= .378, $F(24, 223.925)= 3.713$, $p<.001$). The Mancova analysis revealed statistically significant differences in all dimensions: Satisfaction with social support ($F(3,89)= 8.30$, $p<.001$), Availability of social support ($F(3,89)= 4.73$, $p<.01$), Esteem support from social workers ($F(3,89)= 13.55$, $p<.001$), Esteem support from educators ($F(3,89)= 19.27$, $p<.001$), Evaluative support from social workers ($F(3,89)= 12.93$, $p<.001$), Evaluative support from educators ($F(3,89)= 16.17$, $p<.001$), Relational support from social workers ($F(3,89)= 20.25$, $p<.001$), and Relational support from educators ($F(3,89)= 15.61$, $p<.001$).

The post hoc test Tukey HSD revealed that *Complete mental health* group scored significantly higher than *Troubled* group in these all dimensions - Satisfaction with social support (C.I. 95%] .684; 2.19 [; $p<.001$), Availability of social support (C.I. 95%] .518; 2.92 [; $p<.01$), Esteem support from social workers (C.I. 95%] 3.71; 8.68 [; $p<.001$), Esteem support from educators (C.I. 95%] 4.24; 8.82 [; $p<.001$), Evaluative support from social workers (C.I. 95%] 3.88; 10.12 [; $p<.001$), Evaluative support from educators (C.I. 95%] 4.19; 10.82 [; $p<.001$), Relational support from social workers (C.I. 95%] 5.89; 11.50 [; $p<.001$), and Relational support from educators (C.I. 95%] 5.04; 11.23 [; $p<.001$).

Also, the *Complete mental health* group scored significantly higher than *Vulnerable* group in all dimensions - Satisfaction with social support (C.I. 95%] .049; 1.95 [; p<.05), Availability of social support (C.I. 95%] .488; 3.51 [; p<.01), Esteem support from social workers (C.I. 95%] .337; 6.60 [; p<.05), Esteem support from educators (C.I. 95%] 1.02; 6.79 [; p<.01), Evaluative support from social workers (C.I. 95%] .439; 8.31 [; p<.05), Evaluative support from educators (C.I. 95%] 1.57; 9.93 [; p<.01), Relational support from social workers (C.I. 95%] 1.06; 8.13 [; p<.01), and Relational support from educators (C.I. 95%] 1.60; 9.40 [; p<.01).

Furthermore, *Symptomatic but content* group outscored all dimensions compared with *Troubled* group (except on perceived availability of social support) – Satisfaction with social support (C.I. 95%] .380; 2.39 [; p<.01), Esteem support from social workers (C.I. 95%] 1.43; 8.05 [; p<.01), Esteem support from educators (C.I. 95%] 3.35; 9.46 [; p<.001), Evaluative support from social workers (C.I. 95%] 1.71; 10.03 [; p<.01), Evaluative support from educators (C.I. 95%] 3.72; 12.55 [; p<.001), Relational support from social workers (C.I. 95%] 1.60; 9.08 [; p<.01), and Relational support from educators (C.I. 95%] 2.67; 10.92 [; p<.001). Also, *Symptomatic but content* group revealed higher scores on esteem (C.I. 95%] .257; 7.30 [; p<.05) and evaluative (C.I. 95%] 1.29; 11.47 [; p<.01) support from educators than *Vulnerable* group.

Finally, the *Vulnerable* group scored significantly higher on Relational support from social workers (C.I. 95%] .635; 7.57 [; p<.05) than *Troubled* group (Table 5).

INSERT TABLE 5 HERE

5. Discussion

In the present study we aimed to explore a dual-factor model of mental health with young people in residential care. Specifically, the appropriateness of that model with young people in care was explored with a confirmatory factor analysis. Results

revealed that two-dimensional models show better fit statistics than the one-dimensional model, which strengthens the literature that apprehends the mental health as two continuum dimensions more than a one-dimensional construct (Keyes, 2005; Westerhof et al., 2010). Furthermore, the oblique two-dimensional model revealed better fit statistics, which underline previous theoretical and measurement evidence describing mental health dimensions as different but related factors (Keyes, 2005).

Moreover, we aimed to explore how different mental health groups may differ on social support, both formal and informal. As such, results suggest that the *Complete mental health* group shows better results in these different dimensions and, on the contrary, the *Troubled* group tends to reveal the worst results. Moreover, we found that, besides the lack of significant psychological problems, the potential for self-actualization and well-being seems to contribute to different profiles of young people in residential care. In fact, we found that not only the absence of significant psychological problems distinguishes young people in care (e.g., *Complete mental health* and *Vulnerable* groups revealed significant differences in some dimensions compared to *Symptomatic but content* and *Troubled* groups), as the possibility of individual self-realization also contributes to different profiles (e.g., *Complete mental health* and *Symptomatic but content* revealed significant differences in a large number of variables compared to *Vulnerable* and *Troubled* groups). Actually, we found that *Complete mental health* and *Symptomatic but content* groups tend to show better results on a set of dimensions of perceived social support compared to *Vulnerable* and *Troubled* groups. These findings are consistent with previous results with normative samples of adolescents that suggest that, for instance, *Complete mental health* and *Symptomatic but content* groups report greater perceived support compared with *Vulnerable* and *Troubled* groups (Antaramian, et al., 2010).

Furthermore, some important distinctions among these four groups that may reveal some important specificities related to these profiles should be noted. First, the presence of psychological difficulties together with reduced well-being outcomes (*Troubled* group) is generally related to the worst results on social support dimensions. This finding is consistent with previous evidence on the worst profile of this group in terms of other psychosocial variables compared with the positive mental health status (Antaramian, et al., 2010). Specifically, this group with a more problematic profile of adjustment would benefit from practices based on supportive relationships not only to reduce their psychological difficulties but also to foster positive dimensions of well-being. In fact, the literature suggests that social support may have a set of theoretical benefits to the individuals functioning, namely, by increasing their self-esteem, reducing anxiety and depression symptomatology or by promoting adaptive coping strategies (Wills & Shinar, 2000).

In addition, we found that the *Vulnerable* group emerges generically as the second group with the worst results in those different supportive relationships. In line with the literature, this suggests that the absence of significant problems is not enough for an optimal psychological functioning (Greenspoon et al., 2001; Wang et al., 2011), as this group of young people seems to reveal a profile closer to the *Troubled* group than to the *Complete mental health group* on those variables. Thus, it was found that only one dimension was significantly different between *Vulnerable* and *Troubled* groups –Perceived relational/emotional support from social workers. This may suggest that higher levels of perceived social support from staff in care (e.g., perceived concern, care and empathy from social workers) could be related to lower psychological problems.

Moreover, the *Symptomatic but content* group revealed more positive outcomes on a set of social support dimensions when compared to *Vulnerable* and *Troubled* groups. Therefore, when *Symptomatic but content* is compared with *Vulnerable* group, although the adolescents from the first one shows significant psychological problems they can also reveal positive outcomes on well-being. Nevertheless, young people on the *Vulnerable* group did not reveal such positive outcomes, despite the absence of significant problems. In addition, comparing *Symptomatic but content* with *Troubled* group, if both groups revealed significant psychological problems, *Symptomatic but content* are also able to reveal positive outcomes of well-being. As such, this may be related to more supportive relationships, which could differentiate these groups in terms of well-being. In truth, we found that *Symptomatic but content* group show higher levels of perceived social support than Troubled adolescents (all dimensions analyzed) as well as higher scores on esteem and evaluative support from educators than the *Vulnerable* group. Thus, these results seem to suggest that while young people in residential care may show significant psychological problems, the promotion of some protective factors (e.g., significant and supportive relationships) may contribute to their positive development and higher levels of well-being. This is consistent with previous studies that suggest that the interpersonal relationships emerged as positive factors to *Symptomatic but content* individuals, with these adolescents revealing adaptive outcomes on global self-worth or behavioral conduct (Greenspoon & Saklofske, 2001).

Likewise, the existence of adequate and positive social support in residential care plays a key role for young people as it helps them to effectively cope with their difficulties and challenges (Bravo & del Valle, 2003). It is important to point out that this population presents a set of individual characteristics and life experiences that reflects their psychological and social vulnerability. Not only they experienced previous

family problems that justified their removal from home (e.g., maltreatment), but also they must to face with difficulties inherent to this separation from their family context, as well as the integration in a new development context (the residential care setting); also, future circumstances of life involves some vulnerabilities related to the process of adaptation to different contexts and challenges (e.g., return to the family, transition to independent living) (Bravo & del Valle, 2003; Martin & Dávila, 2008). Finally, their significant mental health problems (Schmid et al., 2008; Erol et al., 2010) are an additional risk factor for these adolescents, and for this reason the availability of formal and informal social support seems to be even more decisive. Actually, supportive relationships both in and out of residential care are significant protective factors concerning the young people's mental health outcomes (Martin & Davila, 2008; Siqueira & Dell'Aglio, 2010). In sum, this manuscript provided innovative results about a dual factor model of mental health in residential care together with the relevance of social supportive relationships to young people adjustment.

Despite these innovative results, it is important to note some limitations. First, merely self-reported measures were used in this study, and further evidence could be obtained based on multiple informants. For instance, it would be interesting to have information about social support provided by professionals in care from their perspective, simultaneously, with the view of young people. This may provide more information to deal with potentially divergent perceptions in care about social support (perceived vs received vs provided). Second, we may also discuss this evidence carefully considering that this is a cross-sectional study and no causal inferences can be done. As such, we are not able to guarantee that it is the social support that lead to more positive mental health outcomes. Actually, although we considered that as an explanatory hypothesis, we may also hypothesize that troubled adolescents could

perceive lower social support than the adolescents with positive outcomes derived from their own emotional and behavioral difficulties. Moreover, given that we know that both maltreated and institutionalized children reveals compromised attachment patterns (e.g., disorganized attachment) (Vorria, Papaligoura, Dunn, van IJzendoorn, Steele, Kontopoulou & Sarafidou, 2003), we could also imagine that the young people's ability to feel connected with others and rely on people may be compromised. Actually, the literature points that child disorganized attachment (i.e., contradictory behaviours, confusion, fear and disorganization in the relationship with caregivers) is viewed as a critical risk factor for later behavioural problems (Bakermans-Kranenburg, Van IJzendoorn & Juffer, 2005). In this sense, this could also be explored in the future in order to understand how these early relationships may shape later perceived social connections and supportive relationships together with the young people mental health outcomes in care. Furthermore, causal inferences may also be done merely from longitudinal studies, which are needed to better understand this issue. Third, a non-random sample was included in this study, which may bias the evidence obtained in this study; in the future randomized samples must be included. Finally, additional variables must be explored in the future (more than social support components) in order to evaluate if these different mental health status groups may differ on other indicators (e.g., academic achievement, academic adaptation).

6. Conclusions

Generally, this study suggested that the absence of psychological difficulties is not a sufficient condition for an optimal mental health and that significant psychological difficulties are not necessarily incompatible with well-being outcomes. This evidence is important given that the literature with young people in residential care tends to

overlook these possibilities by studying mental health outcomes merely focused separately on well-being or on psychological problems.

As such, these results propose important implications for practice in this specific context, as well as for the public intervention policies in this area. Specifically, this evidence thus suggests the need to implement, monitor and evaluate intervention practices based on the youth's needs (and not an approach of *one fits all*), considering their different mental health needs. Also, public policies should involve greater investment in the quality of residential care services, professionals training, and an effective integration of international recommendations into national legal documents.

In sum, these findings strengthen the importance to focus on well-being outcomes together with psychological difficulties in order to obtain a more accurate snapshot on young people's mental health in care. A more straightforward knowledge on mental health of young people is also important to address their needs with a more appropriate intervention approach.

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Table 1

Descriptive analyses of mental health variables

	M	*SD*	Skewness			Kurtosis		
			Statistic	*SE*	Statistic / *SE*	Statistic	*SE*	Statistic / *SE*
Personal Growth	20.36	3.18	-0.55	0.13	-4.32	-0.03	0.25	-0.11
Personal relations with others	19.23	3.12	-0.47	0.13	-3.72	0.61	0.25	2.40
Self-Acceptance	18.80	3.27	-0.33	0.13	-2.60	0.18	0.25	0.72
Purpose in life	15.52	2.61	-0.18	0.13	-1.38	-0.27	0.25	-1.06
Life Satisfaction	21.83	7.37	-0.19	0.13	-1.48	-0.55	0.25	-2.17
Antisocial behavior	9.20	2.71	1.12	0.13	8.78	1.06	0.25	4.19
Anger control problems	8.33	2.27	0.53	0.13	4.17	-0.07	0.25	-0.28
Emotional distress	13.27	3.19	0.13	0.13	1.02	-0.16	0.25	-0.65
Positive Self	6.49	1.76	0.45	0.13	3.46	-0.16	0.25	-0.65

Note. M=Mean; *SD*= Standard deviation; *SE*= Standard error.

Table 2

Correlations (above the diagonal), and covariances (diagonal and below; shaded area) matrices for the variables in the measurement models

	1	2	3	4	5	6	7	8	9
1.Antisocial Behavior	7.340	.708***	.386***	.056	-.148**	-.071	-.023	-.053	-.030
2.Anger Control Problems	4.355	5.154	.397***	.043	-.206***	-.106*	-.022	-.063	.029
3.Emotional Distress	3.342	2.881	10.207	.246***	-.057	-.043	-.096	-.039	-.250***
4. Positive Self	.267	.171	1.385	3.107	-.302***	-.388***	-.342***	-.270***	-.330***
5.Personal Growth	-1.272	-1.487	-.580	-1.689	10.094	.521***	.481***	.542***	.250***
6.Personal Relations with others	-.596	-.750	-.426	-2.137	5.167	9.744	.533***	.490***	.297***
7.Self-Acceptance	-.202	-.161	-1.006	-1.975	5.001	5.445	10.701	.598***	.453***
8.Purpose in Life	-.375	-.374	-.322	-1.242	4.494	3.985	5.099	6.802	.293***
9.Life Satisfaction	-.603	.493	-5.891	-4.282	5.852	6.837	10.917	5.620	54.246

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

Table 3

Fit statistics from the CFA – dual-factor model

	χ^2(df)	χ^2/df	GFI	CFI	RMSEA [90% CI]	AIC	ECVI
One-dimensional model	403.281(20)	20.16***	.80	.59	.228[.209;.248]	435.281	1.183
Two-dimensional model, orthogonal	86.488(20)	4.32***	.94	.93	.095[.075;.116]	118.488	0.322
Two-dimensional model, oblique	82.497(19)	4.34***	.94	.93	.095[.075;.117]	116.497	0.317

Note. ***p<.001

Table 4

Young people's individual characteristics and placement history by mental health status group

	Groups			
	Complete mental health (n=41)	Vulnerable (n=28)	Symptomatic but content (n=30)	Troubled (n=53)
Age (*M; SD*)	15.27 (1.88)	14.43 (1.62)	14.31 (2.01)	14.77 (1.64)
Sex (Frequency)				
Females	13	14	12	21
Males	28	14	18	32
Number of previous placements (N)				
No prior placement	21	13	17	30
One	14	8	9	19
2 or more	3	3	3	1
Placement length (*M*; *SD*)[1]	47.71(39.48)**	31.52(38.83)	43.86(36.62)	23.28(29.16)**

Note. **p<. 01; [1]Mean of Months; *M*=Mean; *SD*= Standard deviation

Table 5

Levels of perceived social and institutional support by Mental health status group

	Groups (*M; SD*)			
	Complete mental health (n=41)	Vulnerable (n=28)	Symptomatic but content (n=30)	Troubled (n=53)
Informal support				
Availability	3.75 (2.18)	1.75 (1.52)	2.83 (2.08)	2.03 (1.68)
Satisfaction	5.66 (0.74)	4.65 (1.27)	5.60 (0.46)	4.22 (1.58)
Formal support				
Relational [Ed]	31.50 (3.98)	26.00 (5.63)	30.15 (4.28)	23.36 (5.40)
Relational [SW]	32.28 (3.50)	27.69 (4.80)	28.92 (4.50)	23.58 (5.90)
Evaluative [Ed]	30.06 (4.85)	24.31 (6.64)	30.69 (3.77)	22.56 (5.26)
Evaluative [SW]	30.75 (4.13)	26.38 (5.51)	29.62 (5.14)	23.75 (5.20)
Esteem [Ed]	26.28 (3.59)	22.38 (4.22)	26.15 (3.74)	19.75 (3.27)
Esteem [SW]	26.22 (3.62)	22.75 (4.10)	24.77 (4.88)	20.03 (3.68)

Note. M=Mean; *SD*= Standard deviation.