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Suicidal Risk During Adolescence: Could Covitality Be Part of the Solution?

Raquel Falcó , Elisa Santana-Monagas , Beatriz Moreno-Amador ,
Jose A. Piqueras , and Juan C. Marzo 

ABSTRACT

Objective: The covitality model suggests that the co-disposition and synergy of core psychosocial assets (i.e., covitality) buffer the negative impact of stressful events and prevent the emergence of mental health problems during adolescence. At this stage of development, suicide already constitutes the leading cause of unnatural death in Europe. The present study aimed to examine how covitality relates to bidimensional mental health status (i.e., psychopathology and subjective well-being) and suicidal risk.

Method: Participants were 5,296 Spanish students ages 12 to 18 years ($M_{\text{age}} \pm SD = 14.19 \pm 1.53$), 50.2% male.

Results: In a structural equation mediational model, covitality acted as a powerful shield of psychosocial strengths against suicidality, via an indirect effect entirely mediated by its impact on bidimensional mental health. The total variance in suicidal risk explained by the set of independent variables was 61.8%, while the total variance of psychopathology and subjective well-being explained by covitality was 54.1% and 75.6%, respectively.

Conclusions: These preliminary findings highlight the need for further study of covitality as a defense strategy against adolescent suicide.

KEYWORDS


Covitality; psychopathology; psychosocial strengths; subjective well-being; suicide

HIGHLIGHTS

- Covitality promote subjective well-being and prevent psychopathological symptoms.
- These self-perceived psychosocial strengths do not have direct effect on suicidality.
- Covitality is related to lower suicidal risk through indirect mechanisms: via bidimensional approach to mental health status (BMH).

INTRODUCTION

The World Health Organization identifies suicide as one of the main public health challenges (World Health Organization [WHO], 2014). Each year around 800,000 suicide deaths are notified worldwide, although suicide is recognized as an underestimated enemy (World Health Organization [WHO], 2021). In this scenario, Spain's records show an unstoppable upward trend (Instituto Nacional de Estadística [INE], 2019, 2020). In 2020, a total of 3,941 people died by suicide, which translates into a statewide rate of 8.32 per 100,000 inhabitants, 7.4% more than the previous year. Among the

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fatalities were 300 youths ages 15 to 29 years and 14 children under age 15. Mortality data doubled compared to 2019, and now suicide constitutes the leading cause of unnatural death among Spanish youth. This panorama replicates on a large scale on the European continent.

Moreover, suicide is a broad-spectrum construct whose phenotypic manifestation includes ideation, planning, communication, and suicidal act (Anseán, 2014; O'Connor & Nock, 2014). Lim et al. (2019) collected epidemiological publications on the subject grouping 686,672 children and adolescents in a meta-analysis. Lifetime prevalence was 18% for suicide ideation, 9.9% for suicide planning, and 6% for suicide attempts; while past 12-month prevalence was 14.2%, 7.5%, and 4.5%, respectively. In Spain, Fonseca-Pedrero and Pérez-Albéniz (2020) obtained figures of up to 17.8% for suicidal ideation, 5.9% for planning, and 3.7% for attempted suicide among 3,454 adolescents ages 14–19 years.

Suicide risk is determined by the suicidal indicator type and its level of intensity, frequency, and functional interference (O'Connor & Pirkis, 2016). Research highlights early adolescence to be a critical period in the emergence of suicidality (Alqueza et al., 2023) and its potential predictors (Fusar-Poli, 2019), whereas mid-late adolescence is when its abrupt growth occurs (Voss et al., 2019). Similarly, numerous studies warn that the age of onset (Thompson et al., 2012) and the presence of suicidal thoughts and behaviors during this stage (Castellví et al., 2017) assume a prodromal character on future suicide risk. These headlines highlight the need for further research on suicide indicators preceding the lethal act among youth, to strengthen preventive strategies against its exponential mortality rate.

In preventive matters, psychology advocates a holistic approach based on three concatenated premises about mental health: concept, factorial duality, and gradient of expression. Since 1948, WHO defines health as a state of complete physical, mental, and social well-being, and not merely the absence of disease. Taxonomic models assume the concurrence of positive and negative psychological factors—i.e., psychopathology and subjective well-being—resulting in a bidimensional approach to mental health status (BMH; Greenspoon & Saklofske, 2001). In addition, psychological problems are conceived from a continuum of increasing affectation, beyond their polarization in terms of absence-presence of mental disorders (Achenbach, 1966). This conceptualization allows the prevention of unwanted psychological phenomena to be addressed with strategies of an indicated and universal—not only selective—character for greater success (Sufrate-Sorzano et al., 2022).

Under this umbrella, suicide presents a complex etiology in which multiple biopsychosocial variables converge (O'Connor & Pirkis, 2016); among them, BMH status. For instance, a network analysis found that psychopathology and positive affect were nuclear nodes in explaining suicidal behavior (Fonseca-Pedrero et al., 2020), as warned by previous meta-analyses (Soto-Sanz et al., 2019a); however, self-perceived socio-emotional skills was the most influential node on the etiological net. In this regard, numerous studies have highlighted the role of personal resources against suicide, such as emotional intelligence (Domínguez-García & Fernández-Berrocal, 2018), problem-solving techniques (Sastre-Buades et al., 2021), or social support (Soto-Sanz et al., 2019b). WHO (2014, 2021) urges that suicide prevention should focus on promoting protective

factors in adolescents, specifically adaptative coping strategies, positive personal beliefs about oneself, and solid interpersonal relationships. Then, the question arises as to whether a unitary model of these strengths could be key to confronting suicide: the covitality model.

In the framework of positive psychology, covitality is described as the co-disposition of positive intra- and interpersonal self-schemas, whose synergy favors psychosocial adjustment and prevents the onset of mental health problems (Weiss et al., 2002). Its acquisition involves a developmental process from childhood through adolescence and beyond, in which a person forms and nurtures cognitive schemas that organize and process life experiences, giving them meaning (Paz & Kim, 2022). Based on scientific literature, Furlong et al. (2014) selected the core psychosocial strengths with the strongest empirical support and designed the covitality model. Thus, this model includes facets that are an integration and derivation of several preexisting models, such as those of emotional intelligence, social-emotional learning, resilience, and positive psychology (Furlong et al., 2014, 2020). Figure 1 illustrates the structure and composition of this hierarchical model, which contemplates the existence of 12 first-order latent factors, grouped into four second-order factors, and a general higher-order factor: covitality. The theoretical underpinning and conceptual delimitation of each psychosocial attribute are described in detail by Furlong et al. (2020).

The evidence accumulated among large samples of adolescents from different countries indicates that covitality has a major impact on BMH. The results show positive and large-magnitude association with subjective well-being (Pennell et al., 2015), and negative moderate-size association with psychopathology (Telef & Furlong, 2017a). Predictive models offer an explained variance of up to 60% (Telef & Furlong, 2017b) and 35% (Falcó et al., 2020) for these constructs. In addition, in structural equation

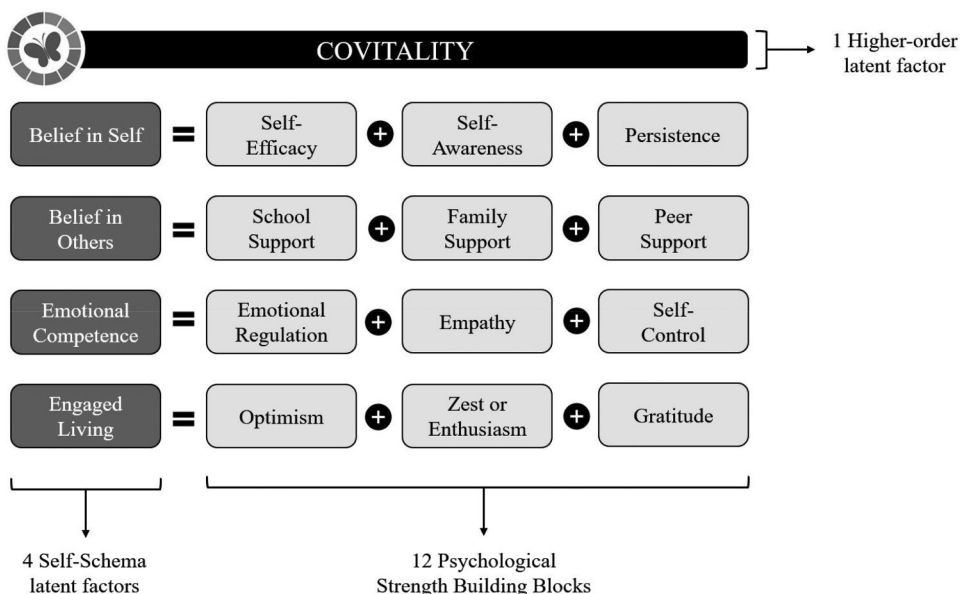


FIGURE 1. Hierarchical model of Covitality.

Notes: Figure adapted from Furlong et al. (2020).

models, covitality presents significant and clinically relevant estimations on multicomponent mental health meta-constructs (Ito et al., 2015; Piqueras et al., 2019). These studies support the solid positive influence of psychosocial strengths on BMH status.

In contrast, the specific study of the relationship between covitality and suicide during adolescence is still in preliminary stages. The findings are incipient, and the approach is limited to suicidal thoughts. Thus, the correlational pattern shows a negative association of weak-moderate magnitude (Larson, 2021). Probabilistic models indicate that a greater number, variety, and equal configuration of psychosocial strengths reduces suicidal ideation (Lenzi et al., 2015). However, the effect of covitality is not limited to modest direct effects but also plays a strong moderating role, for example, between experiences of bullying toward sexual and gender minorities (O'Malley et al., 2022) or foster youth (Larson, 2021) and suicidal thoughts. These results suggest that covitality acts as a protective factor against suicide through indirect actions. Based on the literature, it seems that BMH could serve as a link, although to the best of our knowledge this is a question yet to be answered.

Therefore, this study examined how covitality relates to BMH status and suicidal risk. To this end, three specific objectives were established: (O₁) to trace the socioemotional profile of the sample from a multicomponent prism, in terms of psychosocial strengths, BMH, and suicide indicators; (O₂) to examine the correlations between constructs; and (O₃) to analyze the covitality-suicidality relationship considering the mediating role of BMH.

METHODS

Participants and Procedure

This study presents an empirical design and follows a quantitative, observational, descriptive-correlational, multicentric, and cross-sectional methodology (Montero & León, 2007). The non-probabilistic quota sampling technique was applied in two areas of southeastern Spain: Province of Alicante and Region of Murcia. A total of 100 secondary schools were contacted, of which 34 finally accepted to participate: 22 public, 12 nonpublic (64.71%, 35.29%), 30 secular, and four Catholic (88.24%, 11.76%).

The assessment protocol was completed individually through the LimeSurvey© platform. This process was conducted on site by research staff specialized in child and adolescent psychological therapy. The initial recruitment reached a total of 5,741 students of secondary education, high school, and vocational training, according to the Spanish education system. Two-hundred thirteen cases (3.7%) were excluded due to incomplete surveys, and another 232 cases (4%) due to omissions to suicidal questions (“prefer not to say”). The clinical implications of this alternative response have been analyzed in a previous study (Falcó et al., 2023).

Consequently, the final sample was composed of 5,296 adolescents aged 12–18: $M_{age} \pm SD = 14.19 \pm 1.53$; 50.2% male. Student participation was not incentivized, but centers received a descriptive feedback report for each group assessed. The purpose of this action was to provide an overview of the mental health status of the students, which served as a basis for the implementation of a Tutorial Action Plan to meet the identified needs.

Measures

Covitality

Social Emotional Health Survey—Secondary (SEHS-S; Furlong et al., 2014; Spanish version of Piqueras et al., 2019). This is a 36-item instrument designed to measure the psychosocial strengths that make up the hierarchical Covitality Model—i.e., three items for each of the 12 first-order factors: (1) self-efficacy, self-awareness, and persistence, which compose belief in self; (2) school support, family support, and peer support, included in belief in others; (3) emotional regulation, empathy, and self-control, which account for emotional competence; and (4) optimism, enthusiasm (or zest), and gratitude, which conform engaged living. The general measure of Covitality would refer to the co-disposition, interaction, and synergy of all these assets. The response options are presented on a 4-point Likert scale (1 = *Not at all true*; 4 = *Totally true*). Some sample items: “I am able to solve my problems” (item 1, self-efficacy), “I have at least one friend my age (more or less) who really cares about me” (item 16, peer support), “I feel bad when they hurt someone’s feelings” (item 22, empathy), and “I feel grateful for many things in my life” (item 36, gratitude), respectively.

BMH Status

Pediatric Symptom Checklist—Youth Self-Report (PSC-17-Y; Gardner et al., 1999; Spanish version of Piqueras, Vidal-Arenas et al., 2021). The present instrument allows the psychopathological screening of three types of psychosocial problems: internalizing (i.e., anxious-depressive), externalizing (i.e., disruptive behavior), and inattention-hyperactivity symptoms (ADH). It consists of a total of 17 items answered on a 3-point Likert scale based on the frequency of occurrence (0 = *Never*, 1 = *Sometimes*, 2 = *Often*). Some examples: “I feel sad, unhappy” (item 2), “I fight with other people” (item 8), or “I have trouble concentrating” (item 7), respectively.

Mental Health Continuum—Short Form (MHC-SF; Keyes et al., 2008; Spanish version of Piqueras et al., 2022). This measure provides a multidimensional assessment of subjective well-being: emotional, psychological, and social. It consists of a total of 14 items and six response alternatives, reflecting the frequency with which symptoms have been experienced and formulated positively (1 = *Never*; 6 = *Always*). For example: “During the last month, I have felt ... satisfaction with life” (item 3), “confidence to think or express my own ideas and opinions” (item 13), or that “people are generally good” (item 7), respectively.

Suicidality

Self-Injurious Thoughts and Behaviors Interview (SITBI; Nock et al., 2007) and Columbia–Suicide Severity Rating Scale (C-SSRS; Posner et al., 2011). A selection of items from the Spanish version of the SITBI (García-Nieto et al., 2013) and the C-SSRS (Al-Halabí et al., 2016) was administered for the assessment of five indicators of the suicide spectrum: death wishes, suicidal ideation, determination of a suicide method, design of a detailed suicide plan, and previous suicide attempts. The items examine their manifestation during the past 12 months using a dichotomous response scale: no-

TABLE 1. Descriptive statistics.

Scales	α	ω	Rating anchor	Mean	SD	Skewness	Kurtosis
Covitality	.90	.91	1-4	3.11	0.39	-0.43	0.15
Belief in self	.75	.76	1-4	2.95	0.48	-0.30	-0.15
Belief in others	.77	.77	1-4	3.33	0.49	-0.88	0.69
Emotional competence	.74	.75	1-4	3.05	0.46	-0.32	-0.12
Engaged living	.88	.88	1-4	3.11	0.59	-0.64	0.11
Psychopathology	.81	.81	0-2	0.59	0.30	0.34	-0.10
ADH symptoms	.70	.71	0-2	0.91	0.46	0.02	-0.30
Internalizing symptoms	.74	.76	0-2	0.64	0.45	0.65	-0.14
Externalizing symptoms	.70	.71	0-2	0.38	0.30	0.72	0.24
Subjective well-being	.92	.92	1-6	4.49	0.91	-0.59	0.10
Emotional well-being	.78	.81	1-6	4.73	1.04	-0.78	0.22
Psychological well-being	.84	.84	1-6	4.74	0.93	-0.80	0.57
Social well-being	.86	.86	1-6	4.03	1.10	-0.28	-0.46
Suicidality	.85	.86	0-1	0.06	0.19	3.44	11.59
Death wishes	-	-	0-1	0.10	0.30	2.64	4.98
Suicidal ideation	-	-	0-1	0.08	0.26	3.22	8.36
Suicide method	-	-	0-1	0.07	0.26	3.27	8.67
Detailed suicide plan	-	-	0-1	0.04	0.19	4.94	22.36
Suicide attempt	-	-	0-1	0.02	0.15	6.31	37.77

Note: - = not applicable.

yes. In addition, for preliminary analyses with observed variables, the suicidality index was calculated as a report of the number of suicide indicators experienced [$(\sum \text{item1} - \text{item5})/5$].

Similarly, for all measures, composite scores were created by averaging items. Table 1 displays the descriptive statistic of the variables.

Data Analysis

Reliability of the assessment measures was tested using Cronbach's alpha (Cronbach, 1951) and McDonald's omega (McDonald, 1999), considering $> .70$ as the criterion value for optimal internal consistency (Gu et al., 2017). Descriptive statistic of the scales was also estimated using parameters of central tendency, dispersion, and distribution of the sample. The factorial invariance by sex and age of the measures was tested and corroborated for this sample. This preliminary block of analysis was conducted to determine the most appropriate statistical methods for the achievement of the objectives.

O₁: To trace the socioemotional profile of the sample, frequency analyses were performed based on the normative data reported in the Spanish validation studies. Thus, a gradient of five categories was established according to percentile rank: very low, $P_c \leq 15$; low, $P_c > 15 / < 35$; medium, $P_c \geq 35 / \leq 65$; high, $P_c > 65 / < 85$; very high, $P_c \geq 85$.

O₂: The association between the study variables was analyzed using Pearson's correlation (r). Cohen's criteria were used to estimate its magnitude (Cohen, 1988): $\approx .10$ weak, $\approx .30$ moderate, $\approx .50$ strong.

O₃: A structural equation mediational model was conducted to explore the direct effects of psychosocial strengths on the suicidal risk and indirect effects on this construct via BMH. In the configuration of the hypothesized model, covitality was introduced as an external predictor factor, psychopathology and subjective well-being as

mediator factors, and suicidality as the outcome factor. Age and sex (coded as 0 = female, 1 = male) were entered as covariates because of the small differences found in preliminary studies (Falcó et al., 2020, 2023). Goodness-of-fit of the model was tested using the following indicators: chi-square test (χ^2), root mean square error of approximation (RMSEA), comparative fit index (CFI), Tucker-Lewis Index (TLI), and standardized root mean squared residual (SRMR). CFI and TLI values $> .90$ indicated an acceptable fit, and RMSEA values $< .06$ indicated an optimal fit (Marsh et al., 2004). The weighted least square mean (WLSM) estimator was used due to the categorical nature of the variables and its greater precision with data not normally distributed (Schmitt, 2011). The effects of predictors on suicidality were examined using bias-corrected bootstrap estimates (Efron & Tibshirani, 1993) based on 10,000 bootstrapped samples, as these provide a powerful test of mediation (Fritz & MacKinnon, 2007) and are also robust to deviations from normality (Erceg-Hurn & Mirosevich, 2008). Statistical significance was determined by 99% bias-corrected bootstrapped confidence intervals that did not contain zero. Data analyses were conducted using Mplus 8.7 (Muthén & Muthén, 2022).

RESULTS

Multicomponent Socioemotional Profile

Prevalence data for suicide indicators during the past 12 months were 10.1% ($n = 537$) for death wishes, 7.5% ($n = 399$) for suicidal ideation, 7.4% ($n = 390$) for choice of a suicide method, 3.7% ($n = 194$) for designing a detailed suicide plan, and 2.3% ($n = 124$) for suicide attempts. [Supplementary material 1](#) shows the percentage distribution of the sample according to the percentile gradient of the psychosocial strengths and BMH. Overall, there was symmetry in the percentage of adolescents with scores below and above the normative average on the indices of covitality (33.3% vs. 36.9%), psychopathology (36.4% vs. 32.5%), and subjective well-being (30.3% vs. 34.5%), with a tiny difference ranging from 4% in favor of positive mental health in all cases. The percentage differences were more pronounced and heterogeneous among the subscales.

Direction and Magnitude of Association

Bivariate correlations among the study variables are presented in [Table 2](#). All relations examined were statistically significant ($p < .001$). Covitality showed large associations with psychopathology ($r = -.52$) and subjective well-being ($r = .69$) indices, in a negative and positive direction. The interrelation among the latter two constructs was also negative and of large size ($r = -.48$). Suicidality was median and positively associated with psychopathology ($r = .38$), and negatively associated with covitality ($r = -.32$) and subjective well-being ($r = -.39$). In particular, psychosocial dispositions correlated weakly/medium with all markers of the suicide spectrum (r from $-.02$ to $-.32$), moderately with the different psychopathological manifestations (r from $-.20$ to $-.43$), and highly with the dimensions of well-being (r from $.33$ to $.63$).

TABLE 2. Bivariate correlations.

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
1. Covitality	–																			
2. Belief in self	.83	–																		
3. Belief in others	.77	.53	–																	
4. Emotional competence	.67	.46	.31	–																
5. Engaged living	.84	.61	.55	.38	–															
6. Psychopathology	–.52	–.49	–.34	–.32	–.46	–														
7. ADHD symptoms	–.36	–.39	–.20	–.26	–.26	.76	–													
8. Internalizing symptoms	–.44	–.43	–.33	–.07	–.49	.77	.38	–												
9. Externalizing symptoms	–.40	–.33	–.24	–.43	–.28	.78	.46	.36	–											
10. Subjective well-being	.69	.62	.54	.33	.68	–.48	–.29	–.52	–.30	–										
11. Emotional well-being	.58	.50	.43	.23	.61	–.41	–.23	–.48	–.23	.83	–									
12. Psychological well-being	.69	.61	.52	.36	.63	–.47	–.28	–.48	–.31	.92	.69	–								
13. Social well-being	.60	.52	.47	.28	.57	–.41	–.25	–.44	–.25	.90	.64	.69	–							
14. Suicidality	–.32	–.31	–.27	–.06	–.34	.38	.21	.44	.20	–.39	–.38	–.37	–.32	–						
15. Death wishes	–.31	–.30	–.25	–.05	–.32	.35	.21	.42	.17	–.36	–.35	–.34	–.29	.83	–					
16. Suicidal ideation	–.28	–.27	–.23	–.05	–.29	.32	.17	.38	.17	–.34	–.34	–.32	–.28	.86	.63	–				
17. Suicide method	–.26	–.25	–.21	–.05	–.27	.31	.17	.36	.18	–.32	–.31	–.30	–.27	.85	.60	.67	–			
18. Detailed suicide plan	–.22	–.21	–.18	–.04	–.23	.26	.13	.30	.15	–.27	–.26	–.27	–.21	.78	.51	.60	.61	–		
19. Suicide attempt	–.17	–.17	–.15	–.02	–.18	.21	.10	.24	.12	–.24	–.23	–.23	–.18	.64	.39	.47	.43	.51	–	

Note: $p < .001$.

Covitality vs. Suicidality

The model presented acceptable fit values: $\chi^2(2520) = 28322.103$ ($p < .001$), RMSEA = .044, CFI = .913, TLI = .909, SRMR = .057. Figure 2 illustrates the standardized direct effects [β (99% CI)], which were significant for all relations examined except for the covitality-suicidality trajectory [.165 (–.012, .319)]. Psychosocial strengths displayed robust association with BMH: negative on psychopathology and positive on subjective well-being. In turn, psychopathology showed strong relation with suicidal risk, whereas subjective well-being presented a more modest effect.

The standardized effects of the covariates sex and age on covitality [sex: .084 (.047, .122); age: –.202 (–.240, –.165)], psychopathology [sex: –.068 (–.103, –.033); age: .100 (.065, .135)] and suicidality [sex: –.148 (–.094, –.040); age: –.077 (–.136, –.019)] were significant, but not clinically relevant compared to other outcomes in the model. The relation of these sociodemographic variables with subjective well-being was not statistically significant [sex: –.014 (–.040, .012); age: .021 (–.006, .048)]. As a result, being female was associated with greater deficits in covitality, more pronounced symptomatology, and greater experience of suicidal markers. Younger ages were also associated with a higher disposition of positive self-schemas, lower psychopathology, and, surprisingly, higher suicidal risk.

The mediational analysis further identified a powerful and negative overall indirect effect of covitality on suicidality [–.756 (–.892, –.620)], through its impact on psychopathology [–.442 (–.524, –.360)] and subjective well-being [–.314 (–.428, –.200)]. In other words, a greater co-disposition of these psychosocial assets was associated with lower levels of psychopathology and higher levels of well-being, which, in turn, was associated with less experience of suicidal thoughts and behaviors. The total variance in suicidal risk explained by the collective set of independent variables was 61.8%, while the total variance of psychopathology and subjective well-being explained by covitality alone was 54.1% and 75.6%.

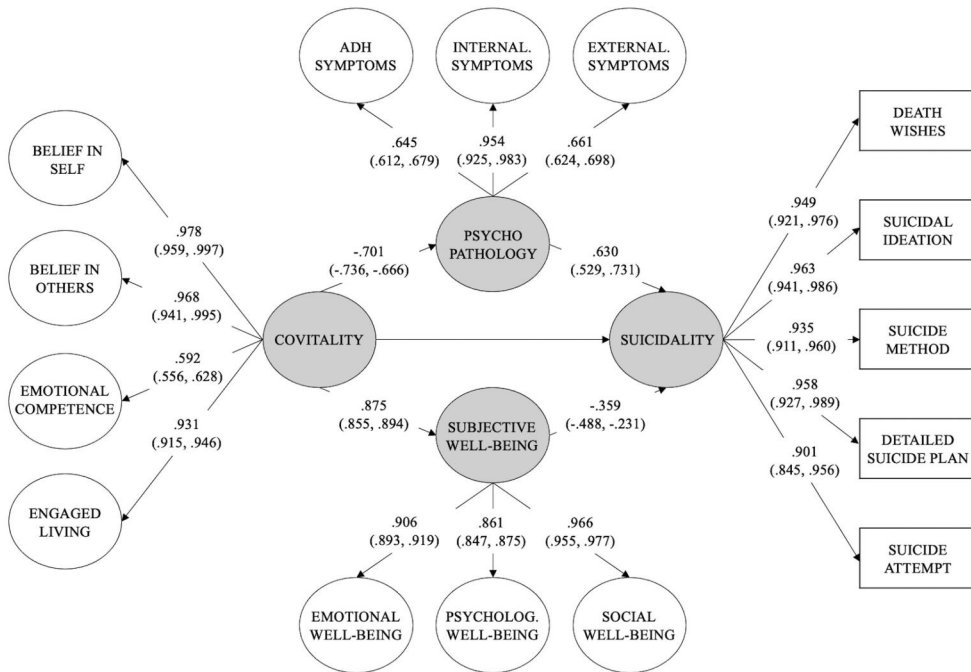


FIGURE 2. Standardized direct effects.

Notes: β (99% CI). For factor loadings on 12 first-order latent factors see supplementary material.

DISCUSSION

The present study examined how covitality relates to BMH status (i.e., psychopathology and subjective well-being) and suicidal risk. Specific objectives are discussed below considering the main findings and the preceding literature:

First, the socioemotional profile was traced from a multicomponent prism. In terms of negative mental health, the prevalence of suicide indicators during the past 12 months reached 10.1% of ideation, 7.4% of planification, and 2.3% of attempts. In comparison, the worldwide epidemiological meta-analysis by Lim et al. (2019) provided slightly higher values (95% CI) with 14.2% (11.6–17.3%), 7.5% (4.5–12.1%) and 4.5% (3.4–5.9%), respectively. In the psychopathological gradient, 17.4% of the sample exceeded the cutoff points for moderate, and 15.1% for severe affective-behavioral manifestations. Specifically, 16.4% reported prominent internalizing symptoms, 18.9% externalizing, and 15.7% ADH, as indicated by previous prevalence studies (e.g., Ortuño-Sierra et al., 2018).

Regarding positive mental health, 14.8% of adolescents reported high levels of subjective well-being and 19.7% achieved maximum scores, especially in its social component with 18.9%. Although the classification criteria differ from the study by Guo et al. (2015), their results pointed in the same direction. In addition, 14.8% scored slightly above the normative average on the covitality gradient, while 19.8% notched at its extreme, doubling the figures reported by other countries (c.f., Lee et al., 2016). As a strong point, ‘belief in others’ (i.e., social support). As an aspect to be improved, ‘engaged living’, an important aspect in the genesis of suicidal ideation.

Secondly, the association between variables was explored. Covitality presented strong relationships with psychopathology ($r = -.52$) and subjective well-being ($r = .69$), in agreement with previous work that provided correlations of r from $-.34$ to $-.51$ (e.g., Telef & Furlong, 2017a), and r from 0.49 to 0.67 (e.g., Pennell et al., 2015), respectively. As expected (Piqueras, García-Olcina et al., 2021), the BMH indicators showed in unison a moderate association with suicidality ($r \approx .40$). An additional finding of this study lies in the correlational trend provided between the psychosocial attributes and suicidal risk: inverse and of moderate nature ($r = -.32$). Covitality showed a moderate connection with ideation (r from $-.28$ to $-.31$), weak-moderate with planning (r from $-.22$ to $-.26$), and weak with suicide attempt ($r = -.17$). So far, only correlational evidence on covitality and suicidal ideation had been presented with similar results (Larson, 2021).

Finally, the covitality-suicidality relationship was analyzed, considering the mediating role of the BMH. Findings are discussed following the structure of the hypothesized model. Thus, psychosocial strengths showed strong direct effects on BMH, providing an explanatory variance of 54.1% on psychopathology and 75.6% on subjective well-being, and exceeding the estimates of the previous studies by approximately 20% (Falcó et al., 2020; Telef & Furlong, 2017b). Contrary to expectations, covitality did not present a direct trajectory on suicidality as suggested by previous research (Lenzi et al., 2015). This divergence could derive from the inequivalence in the selection of assessment instruments, the response coding format, the structure and composition of the models tested, or the statistical analysis method. For example, our study uses a broad-spectrum measure of the variable suicide with five indicators (vs. one, suicidal ideation), in addition to considering the influence of other explanatory variables that detract from the covitality-suicidality relationship but offer greater robustness and comprehensiveness as a whole in the SEM.

However, according to other studies (Larson, 2021; O'Malley et al., 2022), these psychosocial assets showed their influence through indirect relations, particularly through the BMH, one of the nuclear factors in the etiology of suicide among adolescents (Fonseca-Pedrero et al., 2020; Soto-Sanz et al., 2019a). This means that higher co-disposition of psychosocial assets was associated with lower levels of psychopathology and higher levels of subjective well-being which, in turn, was associated with lower suicidality; and vice versa. Thus, covitality and BMH provided a total explained variance of 61.8% on the suicidal risk. Logic invites us to think that covitality shows powerful indirect effects because a deficit on mediating variables could be the prelude to suicidal thoughts and behaviors. In other words, suicidality could represent the most extreme expression and negative of the BMH status: minimum levels of subjective well-being and/or maximum levels of psychopathology. Therefore, it could be said that psychosocial strengths acted as a protective factor against the suicidal phenomenon, through an indirect effect entirely mediated by its impact on BMH status.

Limitations and Future Research Lines

Despite the contributions made by the present study, some limitations must be considered. The geographical restriction and cross-sectional nature limit the generalization of the findings and their invariance over time (Montero & León, 2007). Consequently, it

would be interesting to replicate this study by relying on a representative sample of adolescents and through a repeated-measures design. To increase the reliability and validity of the measurement, it is suggested to carry out a multi-method and multi-informant assessment that provides greater objectivity on the study variables, compared to the exclusive use of self-report and its inherent response biases (Kimberlin & Winterstein, 2008). In this sense, Harmer et al. (2021) recommend opting for frequency and intensity scales in the assessment of suicidal tendencies, beyond their dichotomic categorization in terms of the absence/presence of markers. Thus, the aim is to consider an experimentation gradient that avoids zero inflation (mode = 0, absence), underreporting the presence of the suicide and negatively influencing the estimates of the predictive models (Leifker et al., 2021). Given the etiological complexity of suicide, it also seems opportune to reexamine the protective role of covitality within the framework of a biopsychosocial model, designed by interdisciplinary teams, that provides a holistic approach (O'Connor & Pirkis, 2016). In any case, this article constitutes a starting point in the study of covitality and the suicidal spectrum in the adolescent population and lays the basis for future research.

Strengths and Practical Implications

Suicide is one of the leading causes of death among adolescents worldwide (WHO, 2021). The time to act is now; the cost of inaction is human lives, and prevention based on evidence is imperative (Al-Halabí & Fonseca-Pedrero, 2021). Preventive actions should be designed for implementation at a selective, indicated, and universal level, aiming at a comprehensive approach (Sufrate-Sorzano et al., 2022). Thus, positive psychology is making its way into the field of suicidology by leaps and bounds. WHO (2014, 2021) urges the promotion of adaptive coping strategies, positive personal beliefs about oneself, and strong interpersonal relationships during adolescence, and covitality provides a unitary model that involves all these protective factors. The findings suggest that the co-disposition and synergy of these psychosocial strengths determine much of the BMH, which, in turn, powerfully influences the degree to which suicidal thoughts and behaviors are experienced. So far, only modest effects of covitality on BMH and suicidal ideation were known; now, the results are more robust and raise the possibility that training in these psychosocial assets constitutes a positive and effective preventive strategy against the suicide spectrum, applicable at all levels of action. Not surprisingly, these results reaffirm something on which there is a broad consensus in the scientific community: personal resources are decisive factors on the state of BMH in general, and on adolescent suicide in particular (Soto-Sanz et al., 2019b). The specific contribution of this work lies in studying the psychosocial strengths from an integrative model, and at the same time revealing their main mechanism of association with suicidal risk.

CONCLUSION

“Suicidal Risk During Adolescence: Could Covitality Be Part of the Solution?” The answer seems affirmative. Without a doubt, covitality constitutes a powerful shield of psychosocial strengths for adolescents: it promotes subjective well-being and prevents psychopathological

manifestations. This appears to be their defense tactic against adolescent suicide. In any case, the preliminary nature of this manuscript and its main findings invites us to go deeper into this direction. Perhaps training adolescents on covitality from an early age could be part of the solution as a universal prevention strategy.

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DISCLOSURE STATEMENT

The authors report there are no competing interests to declare.

ETHICS APPROVAL AND PATIENT CONSENT

The procedures used in this study adhere to the tenets of the Declaration of Helsinki. Prior approval was obtained from the ethics committee of Miguel Hernández University (DPS.JPR.02.17). Written informed consent was compiled from all participants and their parents or legal guardians.

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DATA AVAILABILITY STATEMENT

Data are available from the corresponding author upon reasonable request.

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