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# Development and Validation of an Attributional Style Questionnaire for Adolescents

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We describe the development and psychometric characteristics of a new version of the Attributional Style Questionnaire (ASQ; Seligman, Abramson, Semmell, & Von Baeyer, 1979)—a version called the Attributional Style Questionnaire for Adolescents (ASQ-A)—using 3 samples (*N*s = 547, 438, and 240) of Spanish secondary school students. In Study 1, the initial pool of 87 items was reduced to 54. Study 2 further analyzed the 54 scale items and revealed that the Internality, Stability, and Globality subscales scores had good reliability, good factorial construct validity, and satisfactory associations with maladaptive mood ratings. In Study 3, the regression analyses showed good and specific predictive validities of ASQ-A subscales for the attributions that the adolescents made about a particular real-life stressful situation. Study 4 showed that over an 8-month period the changes in the Stability and Globality subscales depended on the intensity of stressful life events experienced in this period. Overall, the studies revealed that the new ASQ-A served as an appropriate instrument to assess attributional style in adolescents.

*Keywords:* Attributional Style Questionnaire for Adolescents, psychometric properties, predictive validity, sensitivity to stressful life events

Contemporary psychologists are especially interested in cognitive models of depression that associate the origins and the persistence of depressive symptoms with the ways people think about themselves and the world around them. An approach that has proved to be particularly fruitful in order to explain depressogenic thinking is offered by causal attribution models. Since Abramson, Seligman, and Teasdale (1978) postulated the reformulated learned helplessness model, three attributional dimensions are considered crucial to the explanation of human helplessness and depression. They are (a) Internality versus Externality, (b) Stability versus Instability, and (c) Globality versus Specificity. According to this model, individuals with a maladaptive attributional style are likely to exhibit deficits in affection, cognition, self-esteem, and motivation that characterize their helplessness when they confront stressful life events. A revision of the reformulated learned helplessness model, the hopelessness theory of depression (Abramson, Metalsky, & Alloy, 1988, 1989), posited that when individuals with cognitive vulnerability experience stressful life events, they tend toward hopelessness expectancies, and this, in turn, might provoke a specific subtype of depression, termed *hopelessness depression* (HD).

Although these cognitive vulnerability models derive from theory and research that focus on adults, they have been applied to the younger population with relatively little consideration to developmental factors. According to Cole et al. (2008) and Gibb and Alloy (2006), once children develop abstract reasoning and formal operational thinking during the transition from late childhood to early adolescence, attributional style emerges as a consistent vulnerability factor to depression. Cole et al. demonstrated that it is not until the age of 14 or 15 years, when individuals manifest that they make causal attributions, that they interact with stressful life events in a manner that predicts an increase in depression. Consistently, in contrast to results generally supporting the diathesis-stress component found with adult samples (Alloy et al., 2000; Alloy, Just, & Panzarella, 1997; Fresco, Alloy, & Reilly-Harrington, 2006; Priester & Clum, 1992), the findings with adolescent samples are mixed (Abela & Sarin, 2002; Hankin, Abramson, & Siler, 2001; Soria, Otamendi, Berrocal, Caño, & Rodríguez-Naranjo, 2004; Turner & Cole, 1994; see Joiner & Wagner, 1995, for a review of previous results). Although these inconclusive results might reflect the presence of boundaries concerning the consistency of attributional style construct to be used with adolescent populations, they might also reflect the questionable utility of commonly used scales of attributional style in their use with adolescents. Thus, the purpose of this research is to develop a questionnaire that could effectively measure maladaptive attributional styles in adolescents, thereby permitting a more specific investigation of the cognitive diathesis-stress component at this developmental stage. This would allow us to establish whether adolescents' attributional styles may

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usefully contribute to the explanation of why depressive symptoms dramatically increase from middle to late adolescence (ages 15–18), a period characterized by an increase in the number of stressful life events (Ge, Lorenz, Conger, Elder, & Simons, 1994; Hankin & Abramson, 2001; Hankin et al., 1998).

The new attributional style questionnaire we developed was specifically designed for use with adolescents. This new scale was built on the foundation of the original Attributional Style Questionnaire (ASQ; Seligman, Abramson, Semmell, & Von Baeyer, 1979) and its subsequent revisions. Few studies have assessed the factor structure of the ASQ, and in those studies that did so, the results were shown to be inconclusive. Arntz, Gerlsma, and Albersnagel (1985) found three factors that corresponded to the attributional dimensions of Internality, Stability, and Globality, although these accounted for little of the total variance (3.7% to 7.4%). Other studies failed to replicate the three theoretically derived components (Asner-Self & Schreiber, 2004; Corr & Gray, 1996). The reliabilities of the scores for each of the three ASQ subscales (Internality, Stability, and Globality)—ranging from .27 to .73—were also found to be poor (Arntz et al., 1985; Asner-Self & Schreiber, 2004; Cutrona, Russell, & Jones, 1984; Higgins, Zumbo, & Hay, 1999; Hjelle, Belongia, & Nesser, 1996; Peterson & Seligman, 1984; Peterson et al., 1982). Subsequently, extended versions of the ASQ built solely with negative events improved the reliabilities of the three subscales' scores, with ranges of .55–.88 (Joiner & Metalsky, 1999; Metalsky, Halberstadt, & Abramson, 1987; Peterson & Villanova, 1988). These previous ASQ scales have been tested mostly with university students and thus include a number of items that are inappropriate for adolescents (e.g., "you have been looking for a job unsuccessfully for some time"). Additionally, the Children's Attributional Style Questionnaire (CASQ; Seligman et al., 1984) and the revised version (CASQ-R; Gladstone & Kaslow, 1995) are generally used with an age range from 6 to 14 years (see Ingram, Nelson, Steidtmann, & Bistricky, 2007; for psychometric properties, see Abela & Sarin, 2002; Hilsman & Garber, 1995; Nolen-Hoeksema, Girgus, & Seligman, 1992; Panak & Garber, 1992; Robinson, Garber, & Hilsman, 1995). Consequently, at the present time there appears to be no appropriate scale for adolescents. In addition, it is also important to note, as Peterson (1991) pointed out, that people's tendencies to offer causal attributions are characterized by cultural differences. A caution might therefore be noted that although Anglo-American student samples were employed in most previous studies using the ASQ and its revised versions, they appear not to be necessarily appropriate as a reference group for students of other cultures due to the tendency of the former to overexpress positive affect (Iwata & Buka, 2002). For this reason, it is necessary to have an adapted ASQ available for use with Spanish adolescents while using rigorous cross-cultural procedures. The objective of the current article is to develop an instrument that will help to fill these important gaps.

The development of the Attributional Style Questionnaire for Adolescents (ASQ-A) and initial analyses of its psychometric characteristics were conducted in four studies. In Study 1, the steps used to develop the ASQ-A are described. We used the same rationale that Metalsky et al. (1987) and Peterson and Villanova (1988) used for their extended versions of ASQ, which focused on the attributional style for only negative events and, as a result, improved the reliability of the ASQ scores. It has also been demonstrated that attributional style for negative events is more stable than is attributional style for positive events (Burns & Seligman, 1989) and that it has a better correlation with depression scores (Peterson & Seligman, 1984; Sweeney, Anderson, & Bailey, 1986). Thus, this new ASQ-A also focused on the attributional style for only negative events. In Study 2, we evaluated the properties of reliability, factor structure, and convergent validity of the new scale's scores. Firstly, we had to demonstrate that the ASQ-A scores could be a reliable measure of attributional style for adolescents and that the attributional dimensions clearly reflected the unique factors of the scale. This would appear to be particularly appropriate for the Internality subscale, which, according to Peterson et al. (1982) and others, has questionable reliability. Secondly, we examined the convergent validity of the ASQ-A scores, as demonstrated by their correlation with maladaptive mood states such as depression, hopelessness depressive symptoms, negative affect, and self-esteem. This would support some of the important predictions derived mainly from helplessness and hopelessness theories. In Study 3, to assess predictive validity, we examined the degree to which each dimension of attributional style on the ASQ-A scores would predict the specific individual attributions that adolescents were shown to make when confronted with stressful academic failure. Finally, in Study 4 we tested the sensitivity of the ASQ-A scores to the stressful life events experienced by adolescents over a period of time.

## Study 1: Scale Development

### Overview

The first objective of Study 1 was to select appropriate sources of stress for inclusion in a preliminary ASQ scale for adolescents. We identified 29 hypothetical negative life events from samples of several different adolescent populations and from a number of instruments commonly used to measure attributions. Three items that refer to Internality, Stability, and Globality attributional styles were included for each of the 29 negative events, for a total of 87 items. In addition, Study 1 aimed to determine the characteristics of the items and the most appropriate factor structure for our selected preliminary item pool by using a separate sample of adolescents. In order to be included in the scale, items were first required to have sufficient associations with their respective attributional dimensions. Items were then required to have adequate loadings on the factor dimensions, and those with insufficient loadings were eliminated.

### Method

#### Item generation.

***Participants.*** The initial sample consisted of 573 ninth- to 12th-grade student volunteers from three secondary schools in a midsized city of southern Spain who participated in the first session of the study. Of these, 547 (270 male, 277 female) participated in the later sessions of the study and completed the questionnaires designed to test our scale. All the participants were Caucasian and predominantly from a middle-class socioeconomic background and ranged in age from 15 to 19 years ($M = 17.40$, $SD = 0.90$). The schools' principals and teachers gave verbal permission for the study to be conducted.

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***Procedure.*** The item pool had two sources. The first was a pilot test designed to identify those negative events more relevant to adolescents. Participants had to report six events that had made them unhappy during the previous 12 months: three events from the academic domain and three from the interpersonal domain. They were also permitted to report three additional situations not classifiable in either of these domains. This pilot test took into account only those situations reported by at least 60% of the sample. The second source of items was a group derived from the previously mentioned principal attributional style scales. As mentioned in the introduction, only negative events were included. The original ASQ format (Seligman et al., 1979) included only those interpersonal relationship and personal achievement events later employed in the extended versions by Metalsky et al. (1987) and Peterson and Villanova (1988). However, Peterson et al. (1982) found it difficult to distinguish between interpersonal/affiliations and achievement events. They argued that interpersonal relationships, particularly in an academic context, may be considered achievements. Because attributions about affiliation may greatly overlap those of achievement, they recommended the use of composite scores rather than separate subscales. Abela and Seligman (2000) reported similar results and concluded that some events could be interpreted differently by different participants as interpersonal, achievement, or both. Therefore, events used to develop the ASQ-A were selected according to rigorously established psychometric criteria independent of the domain the event appeared to represent. As a result, the first experimental version of ASQ-A included 29 hypothetical negative events for a total of 87 items distributed proportionally among the Internality, Stability, and Globality subscales.

As in the original ASQ study (Seligman et al., 1979), participants were asked to imagine that they had experienced each hypothetical event and then to suggest, in their own words, what could be the major cause of each event, had it really occurred. They were then asked to rate from 1 to 7 the cause of each event on each of the three attributional subscales: Internality, Stability, and Globality (see the Appendix for the exact entries for each subscale). Abramson et al. (1989, 1978) asserted that, in theory, when testing the cognitive vulnerability component, negative attributional style scores for only those events considered to be important by each individual have validity (for empirical support, see Metalsky et al., 1987; Vázquez, Jiménez, Saura, & Avia, 2001). Thus, to improve the instrument sensitivity in the present work, we included a supplementary corrective measure to the score procedure. The composite scores of each subscale included the answers for only those events considered important by each individual. This meant that we took into account only those events for which each participant scored more than or equal to 5 on the scale that ranged from 1 (*not at all important*) to 7 (*extremely important*). To calculate the final scores for each participant, we summed the scores of each of the 29 events considered important by the participants to give the aggregates of each subscale (Internality, Stability, and Globality). Then these aggregate scores were divided by the number of events considered important by each participant.

**Item reduction.**

***Participants.*** This experimental version was completed by a new sample of 438 Spanish student volunteers (199 male, 239 female) in the ninth to 12th grades. All were Caucasian and predominantly from a middle-class socioeconomic background and ranged in age from 15 to 19 years ($M$ = 16.94, $SD$ = 1.38). The different student groups completed the ASQ-A in their usual classroom environments. Again, the schools' principals and teachers gave verbal consent for the study to be conducted.

***Procedure.*** The scale was built using the Spanish language, so to achieve the validity of inferences in Spanish for English-speaking adolescents, the translation of the Spanish ASQ-A into the English version (see the Appendix) used the back-translation technique (Brislin, Lonner, & Thorndike, 1993). This first experimental version of the ASQ-A used 87 items that corresponded to each of the three attributional subscales' questions for the 29 hypothetical events. In order to fulfill the two criteria detailed in the Overview section, we performed the following analyses for each of the 87 items (using Windows SPSS, Version 16.0): (a) an item–subscale correlation and (b) an exploratory factor analysis of the matrix of item correlations that takes into account the loading on each principal rotated factor (principal components, varimax rotation). Then, in the final version of the scale, we kept only those items that behaved satisfactorily according to these two consecutive criteria.

## Results

**Item–subscale correlation.** Pearson's product-moment correlation coefficients were computed between each item and the total corrected score of its corresponding ASQ-A subscale. If at least one of the three items that correspond to a hypothetical event had a correlation with the total score of its respective attributional subscale that was less than the .05 level of significance, then all three items of the hypothetical event were excluded. As a result, six items belonging to two events were excluded.

**Factor analysis.** The intercorrelations between the remaining 81 items were computed, and the resultant correlation matrices were subjected to principal-components analysis. Following Nunnally's (1978, p. 418) recommendation, an orthogonal rotation by varimax procedure was performed. To select the number of components, we used Cattell's (1966) scree test, which is generally considered a more reliable indicator of the number of factors to be extracted than is the eigenvalues-greater-than-one criterion, which draws on the relative values of the eigenvalues and is therefore insensitive to the number of variables (Floyd & Widaman, 1995; Zwick & Velicer, 1986). The application of the scree criterion revealed three meaningful factors that corresponded to the attributional dimensions of Internality, Stability, and Globality and explained 25.4% of the total variance. To select which items should be withheld, we followed the criterion that each variable must show a loading of at least .40 in its respective factors. Because of the scale structure of three items applied to each hypothetical event, the .40 criterion was applied to the mean score of each three-item set. In addition, for each three-item set, the mean difference between the factor loadings of each item on its principal factor and on the other two factors was calculated, and only those three-item sets with mean differences higher than .25 were retained. On the basis of the results of our factorial analysis, we eliminated 27 additional items that corresponded to nine events and kept 54 items that referred to 18 hypothetical negative events. The alpha coefficients for the final ASQ-A scale in this sample were .85 for the total scale, .72 for Internality, .84 for Stability, and .86 for Globality.

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## Study 2: Psychometric Properties of the Scale

### Overview

The ASQ-A developed in Study 1 included three dimensions that corresponded to tendencies to attribute negative events to internal, stable, and global causes. To seek further support for the three ASQ-A subscales, we used a new sample on which to carry out a principal-components analysis that included all the items selected in the previous study. Then, in addition, we further analyzed the selected items and the internal consistency of the subscales. We also inspected the intersubscale correlations. Finally, to test the validity of our ASQ-A scale scores we looked for possible convergences with the scores of other questionnaires specifically designed to evaluate depression and associated maladaptive mood states.

### Method

***Participants.*** From an initial pool of 256 Spanish secondary-school student volunteers in the ninth to 12th grades, 240 (117 male, 123 female) took part in the later sessions of the study and completed the questionnaires designed to test our scale. The average socioeconomic status was 3.97 ($SD = 1.19$), with a range of 0 to 8 based on housing conditions and on the education and occupation of the parents. The scale items were anchored such that higher scores represented better housing conditions, which ranged from 0 (*three or more people sharing a room*) to 2 (*two or more rooms per person*); higher parental education, which ranged from 0 (*did not complete primary school*) to 3 (*higher education*); and better occupations of the parents, which ranged from 0 (*unskilled laborers*) to 3 (*major professionals*). All were Caucasian, with ages ranging from 15 to 19 years ($M = 18.01$, $SD = 0.88$). Verbal consent to participate in the study was obtained from the principals and teachers of the schools.

***Measures.***

*ASQ-A.* The 54 items corresponding to the 18 hypothetical events of the final version of the ASQ-A previously described were used. A mean number of 14 events ($SD = 3.84$) were considered important by the participants and then used to calculate the final scores. The frequency distribution of these important events ranged from 56.3% for Event 6 ("Imagine you have been reprimanded in school") to 86.3% for Event 5 ("Imagine you have been expelled from school").

*Beck Depression Inventory (BDI).* The BDI (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) is a 21-item self-report measure of depressive severity that may range from 0 to 63. This instrument has demonstrated an alpha coefficient of .81, when used with nonpsychiatric populations; strong convergent and discriminant validity; and adequate factorial validity (see Beck, Steer, & Garbin, 1988, for a review; see also Kendall, Hollon, Beck, Hammen, & Ingram, 1987). In this study, we used the Spanish version, which has also demonstrated good reliability and validity estimates (Sanz & Vázquez, 1998). It has also shown high internal consistency in our sample ($\alpha = .91$). Fourteen percent of students were above the clinical threshold according to the cutoff of 16 used by Marton, Churchard, Kutcher, and Korenblum (1991) with adolescent psychiatric patients.

*Hopelessness Depression Symptoms Questionnaire (HDSQ).* The HDSQ (Metalsky & Joiner, 1997) evaluates eight of the 11 HD symptoms specified by the hopelessness theory of depression (Abramson et al., 1989). The eight symptoms are retarded voluntary responses, overdependence on others, psychomotor retardation, lack of energy, apathy/anhedonia, sleep disturbances, concentration difficulties, and suicidal tendencies. Each symptom is assessed with a set of four items, each rated on a scale from 0 to 3, and their mean scores are calculated to give final scores that range from 0 to 24. Metalsky and Joiner (1997) showed that their population of undergraduates displayed an HDSQ with adequate internal consistencies for each of the eight symptoms (all $\alpha s > .70$) and that the internal consistency of the scale was excellent ($\alpha = .93$). The scale was also translated from English into Spanish according to the back-translation procedure (Brislin et al., 1993). This Spanish version showed an internal consistency of .90 in our sample.

*Positive and Negative Affect Schedule–Negative Affect subscale (PANAS-NA).* The PANAS-NA (Watson & Clark, 1990; Watson, Clark, & Tellegen, 1988) includes 10 items, rated on a scale of 1 (*very slightly*) to 5 (*extremely*), that assess negative affect (the extent to which an individual experiences personal distress such as anger, disgust, guilt, and fear). Scores for the NA subscale may range from 10 to 50. Watson, Clark and Tellegen (1988) reported internal consistencies within a range from .84 to .87 for NA. Past research has effectively demonstrated the validity of the scale's scores (e.g., Watson, 1988; Watson, Clark, & Carey, 1988; Watson, Clark, & Tellegen, 1984), including studies with samples of adolescents (Crocker, 1997; Huebner & Dew, 1995; Vera et al., 2008). Evidence of the reliability and validity of scores for the Spanish version of the PANAS-NA is reported by Sandín et al. (1999). Internal consistency for this study was moderate ($\alpha = .66$).

*Rosenberg Self-Esteem Questionnaire (SEQ).* The SEQ (Rosenberg, 1965) is a 10-item scale that rates global self-esteem. Items are arranged on a 4-point scale ranging from 1 (*totally disagree*) to 4 (*totally agree*), and the inventory scores may range from 10 to 40. Rosenberg reports an alpha coefficient of .92 for the SEQ. Silber and Tippett (1965) reported test–retest reliability of .85 over a 2-week period. The correlation between the SEQ and self-esteem ratings by psychiatrists is .56. The reliability and factor structure of the SEQ scores are widely confirmed by data from large and diverse samples obtained from communities with different languages and cultures (Schmitt & Allik, 2005). Both the reliability and the validity coefficients of the Spanish version of the SEQ are satisfactory (Baños & Guillén, 2000). In the current sample, the internal consistency was .79.

### Results

**Descriptive data.** The means and standard deviations for the subscales of the ASQ-A are presented in Table 2. The average ASQ-A score for the sample was 13.87, and the standard deviation was 1.58 for the entire scale. Female adolescents showed a higher ASQ-A Globality than did male adolescents, $t(236) = -2.20$, $p < .05$. No gender differences were found in the Stability, Internality, or composite ASQ-A scores.

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**Factor analysis.** Principal-components analysis was applied and this was followed by orthogonal rotation of axes by varimax. Oblique solutions were also examined and yielded very similar results. The scree test (Cattell, 1966) showed a break between the steep slope of the first three factors and a gradual trailing on the remaining factors. The three-factor solution explained 24.5% of the variance. This factor structure replicated the three factors found in Study 1, which was consistent with the reformulated learned helplessness and hopelessness theories and corresponded to the attributional dimensions of Internality, Stability, and Globality. Factor 1, Stability, accounted for 11.04% of the variance; Factor 2, Globality, accounted for 7.90% of the variance; and Factor 3, Internality, accounted for 5.57% of the variance. Average factor loadings for Stability items on the Stability factor, Globality items on the Globality factor, and Internality items on the Internality factor were robust, although lower for the Internality dimension (.54, .46, and .38, respectively). Cross-loading of items was minimal. The greatest cross-loading was the average loading of Globality items on the Stability factor (.14). Forty-nine of the 54 items on the scale (90.7%) had significant factor loadings (≥.35 according to Overall & Klett, 1972) on just one of the three factors. Despite its low saturation, the Internality question of Event 12 ("Imagine that you have a serious conflict about the rights and wrongs of a personal situation") was kept to maintain an equal number of items in all three subscales. In this way, we could make meaningful comparative studies. Table 1 displays the saturations of the items on the three factors. T1

**Item analysis.** We carried out a classic item analysis. Table 2 shows the item–subscale correlations and their descriptive statistics. The correlation of each item was calculated with the score of its respective ASQ-A subscale. The highest corrected correlation of the item–subscales was .60, for the Stability question of Event 13 ("Imagine that you have a serious conflict or disagreement with your parents"), and the lowest was .24, for the Internality question of Event 18 ("Imagine that a person whom you would like to have as a close friend does not want to be your friend"). Seventy-eight percent of the items of the Internality subscale, and all the items of the Stability and Globality subscales, showed an item–subscale correlation equal to or greater than .30, which indicates that the behavior of most items was satisfactory. T2

**Internal consistency reliability.** Cronbach's alpha coefficient for the composite ASQ-A score was .84. This means that the ASQ-A had a high degree of internal consistency. Cronbach's alpha coefficients for the Stability and Globality subscales were also found to be high (.87 and .80, respectively), whereas it was lower for the Internality subscale (.68).

**Intersubscale correlations.** Intercorrelations between the ASQ-A subscales and composite scores are displayed in Table 3. The correlations of the three subscales with the composite ASQ-A score were high (all $ps < .001$). Interestingly, the highest correlation among the subscales was between Stability and Globality. These results and their fundamental implications we discuss in the next section. T3

Table 1
*Factor Analysis for the Attributional Style Questionnaire for Adolescents*

| | Internality events | | | Stability events | | | Globality events | | |
|---|---|---|---|---|---|---|---|---|---|
| Hypothetical negative life events | Factor 1 | Factor 2 | Factor 3 | Factor 1 | Factor 2 | Factor 3 | Factor 1 | Factor 2 | Factor 3 |
| 1. Doing badly in studies. | .10 | −.22 | **.36** | **.48** | .12 | −.05 | .04 | **.49** | −.10 |
| 2. Being overworked preparing for exams. | .16 | −.01 | **.29** | **.52** | .07 | .02 | .00 | **.61** | −.07 |
| 3. Being worried about exam results. | .06 | −.17 | **.36** | **.53** | .21 | .06 | .03 | **.51** | .05 |
| 4. Having bad exam results. | .19 | −.10 | **.42** | **.54** | .15 | −.01 | −.05 | **.58** | −.14 |
| 5. Being expelled from school. | −.07 | .07 | **.33** | **.53** | .12 | .15 | .03 | **.55** | .06 |
| 6. Being reprimanded in school. | .04 | .01 | **.38** | **.58** | −.02 | .11 | −.05 | **.52** | −.11 |
| 7. Being undecided whether to continue studies. | .13 | −.15 | **.32** | **.52** | .08 | −.01 | .03 | **.41** | −.12 |
| 8. Failing to do everything expected of you. | .16 | −.09 | **.36** | **.60** | −.01 | .08 | .06 | **.51** | .05 |
| 9. Having a bad assessment from a future profession superior. | .01 | .02 | **.39** | **.52** | .15 | .09 | .28 | **.46** | −.08 |
| 10. Being shouted at and punished by an angry father. | .19 | .06 | **.35** | **.50** | .12 | .01 | .10 | **.46** | −.05 |
| 11. Being unable to sleep. | −.07 | .07 | **.43** | **.51** | .07 | −.12 | .29 | **.43** | −.00 |
| 12. Having a conflict about what's right and wrong. | −.11 | −.09 | **.19** | **.43** | .05 | −.09 | .26 | **.37** | −.05 |
| 13. Having a conflict or disagreement with parents. | −.06 | −.08 | **.42** | **.62** | .05 | .14 | .15 | **.49** | .10 |
| 14. Feeling tired and run down. | −.05 | .16 | **.49** | **.52** | .09 | .02 | .19 | **.40** | .07 |
| 15. Having a problem with the opposite sex. | .01 | .08 | **.43** | **.43** | .03 | .17 | .20 | **.25** | .03 |
| 16. Feeling uncomfortable in a situation. | −.07 | −.02 | **.47** | **.59** | .01 | .08 | .36 | **.37** | .06 |
| 17. Having very few friends. | .06 | .01 | **.44** | **.65** | .02 | .09 | .26 | **.45** | .15 |
| 18. Being rejected by someone you'd like to be friends with. | .02 | .09 | **.41** | **.57** | .17 | .17 | .12 | **.37** | .21 |

*Note*. $N = 240$. Boldface indicates the factors to which the items belong.

Table 2
*Item–Subscale Correlations (RS), Corrected Item–Subscale Correlations (RCS), Means, and Standard Deviations of the 54 ASQ-A Items*

| | Internality ($M$ = 4.72, $SD$ = 0.70) | | | | Stability ($M$ = 4.64, $SD$ = 0.93) | | | | Globality ($M$ = 4.51, $SD$ = 0.88) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Event | RS | RCS | *M* | *SD* | RS | RCS | *M* | *SD* | RS | RCS | *M* | *SD* |
| 1 | .33 | .33 | 4.59 | 1.61 | .44 | .43 | 4.33 | 1.61 | .43 | .43 | 4.03 | 1.90 |
| 2 | .34 | .34 | 4.79 | 1.70 | .44 | .42 | 5.00 | 1.54 | .48 | .48 | 3.93 | 1.87 |
| 3 | .36 | .36 | 5.03 | 1.69 | .49 | .47 | 5.00 | 1.63 | .40 | .39 | 3.83 | 1.84 |
| 4 | .36 | .36 | 5.28 | 1.65 | .55 | .54 | 4.89 | 1.62 | .49 | .48 | 3.89 | 1.89 |
| 5 | .36 | .36 | 4.64 | 1.95 | .57 | .56 | 4.25 | 1.96 | .54 | .54 | 4.36 | 1.96 |
| 6 | .34 | .34 | 4.93 | 1.69 | .52 | .51 | 4.11 | 1.76 | .32 | .31 | 3.17 | 1.78 |
| 7 | .33 | .33 | 5.19 | 1.82 | .47 | .45 | 5.19 | 1.61 | .41 | .41 | 4.46 | 1.78 |
| 8 | .31 | .31 | 4.50 | 1.71 | .51 | .51 | 4.57 | 1.57 | .37 | .37 | 3.94 | 1.62 |
| 9 | .29 | .29 | 4.53 | 1.71 | .57 | .56 | 4.07 | 1.74 | .53 | .52 | 4.36 | 1.65 |
| 10 | .32 | .31 | 5.39 | 1.47 | .51 | .50 | 4.33 | 1.75 | .45 | .45 | 3.94 | 1.84 |
| 11 | .38 | .38 | 3.77 | 1.83 | .42 | .42 | 4.77 | 1.53 | .46 | .46 | 4.99 | 1.62 |
| 12 | .27 | .27 | 4.11 | 1.86 | .42 | .42 | 4.53 | 1.61 | .39 | .39 | 4.58 | 1.60 |
| 13 | .31 | .31 | 4.78 | 1.60 | .60 | .59 | 4.64 | 1.63 | .48 | .48 | 4.19 | 1.73 |
| 14 | .43 | .43 | 4.38 | 1.84 | .48 | .46 | 4.68 | 1.56 | .41 | .41 | 5.12 | 1.62 |
| 15 | .28 | .28 | 4.41 | 1.79 | .46 | .44 | 4.58 | 1.71 | .33 | .33 | 4.17 | 1.92 |
| 16 | .41 | .41 | 4.28 | 1.83 | .55 | .54 | 4.53 | 1.57 | .49 | .49 | 5.03 | 1.55 |
| 17 | .32 | .32 | 5.22 | 1.75 | .61 | .61 | 4.86 | 1.81 | .49 | .49 | 5.14 | 1.64 |
| 18 | .24 | .23 | 4.08 | 1.80 | .57 | .56 | 4.35 | 1.69 | .30 | .30 | 3.74 | 1.74 |

*Note*. $N$ = 240. Three items correspond to each of the 18 events, one for each subscale. ASQ-A = Attributional Style Questionnaire for Adolescents.

**Convergent validity.** For this work, we took into account Carver's (1989) observations indicating that those researchers who study attributions often use composite values of Internality, Stability, and Globality and treat these composite values as a useful measure of attributional style. So it is prudent to examine the composite scores in addition to the individual dimensions. This would make it possible to test the appropriateness of single dimensions and composite scores in the context of the reformulated learned helplessness and hopelessness theories of depression. Specifically, we hypothesized that (a) the Stability and Globality subscale scores might correlate positively with (i) the intensity of general depressive symptoms, (ii) symptoms of HD, and (iii) negative affects; and (b) the Internality, Stability, and Globality composite scores might correlate inversely with self-esteem. Table 3 presents the correlations of each attributional subscale's scores and composite ASQ-A scores with measures of depression (BDI), hopelessness depressive symptoms (HDSQ), negative affects (PANAS-NA), and self-esteem (SEQ). An alpha level of .001 was used to minimize Type I error rate inflation. Both Stability and Globality ASQ-A scores, as well as composite ASQ-A scores, showed significant positive correlations with symptoms of HD and negative affects. In addition, Globality ASQ-A scores were positively associated with general depressive symptoms. Nevertheless, contrary to what could be expected, the correlation between composite ASQ-A scores and self-esteem failed to reach significance ($r$ = –.18, $p$ = .003).

## Study 3: Predictive Validity of the ASQ-A

### Overview

This study aimed to establish the predictive validity of the ASQ-A scores. Within the context of the reformulated learned

Table 3
*Descriptive Statistics and Correlations Between ASQ-A Subscale and Composite Scores and Between ASQ-A and Depression, Hopelessness Depressive Symptoms, Negative Affect, and Self-Esteem Scores*

| Measure | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | *M* | *SD* |
|---|---|---|---|---|---|---|---|---|---|---|
| ASQ-A | | | | | | | | | | |
| 1. Internality | — | .03 | −.11 | .40 | −.09 | −.12 | −.16 | .03 | 4.72 | 0.70 |
| 2. Stability | | — | .29 | .76 | .17 | .21 | .29 | −.17 | 4.64 | 0.93 |
| 3. Globality | | | — | .68 | .22 | .24 | .33 | −.18 | 4.51 | 0.88 |
| 4. Composite | | | | — | .19 | .21 | .29 | −.18 | 13.87 | 1.58 |
| 5. BDI | | | | | — | .80 | .64 | −.68 | 9.67 | 8.04 |
| 6. HDSQ | | | | | | — | .60 | −.61 | 23.04 | 11.81 |
| 7. PANAS-NA | | | | | | | — | −.58 | 12.19 | 8.33 |
| 8. SEQ | | | | | | | | — | 29.59 | 5.81 |

*Note*. $N$ = 240. Absolute correlations greater than .20 are significant at $p \leq .001$. ASQ-A = Attributional Style Questionnaire for Adolescents; BDI = Beck Depression Inventory; HDSQ = Hopelessness Depression Symptoms Questionnaire; PANAS-NA = Positive and Negative Affect Schedule–Negative Affect subscale; SEQ = Rosenberg Self-Esteem Questionnaire.

helplessness and hopelessness theories, the conjunction of a maladaptive attributional style with a stressful life event could lead to an increase in the probability of making negative attributions about that particular negative event. Specifically, it was hypothesized that higher scores on the Internality, Stability, and Globality ASQ-A subscales would predict higher reports of the respective internal, stable, and global negative attributions of adolescents' real-life stressors in a prospective design. For this purpose, we used negative academic outcomes as real-life adolescents' stressors.

## Method

***Participants.*** In this study, 166 students (80 male, 86 female) from the 240 of the previous sample were selected because they were going to suffer a high impact stressful event: the final grades of the last academic year of secondary school (12th grade). These grades partially compose the final aggregates that rank the students in the selective process determining who will be qualified to seek university entrance. The participants ranged in age from 17 to 19 years ($M = 18.39$, $SD = 0.51$).

***Measures.*** In addition to the ASQ-A, the following measures were introduced:

*Particular Attributions Questionnaire (PAQ).* This scale, created by Metalsky et al. (1987), uses the same attributional dimensions and scale format as does the ASQ. However, instead of considering hypothetical events, the participants are asked to think about a real-life situation recently experienced. In this case the question used was "Think about the grades you have just achieved," and the participants had to indicate the cause they considered most important for that situation. Then they had to grade that cause according to each of the three attributional dimensions contained in the questionnaire.

*Academic achievement.* Participants' perceptions of their academic achievement on their final exams were assessed with an aspirations questionnaire that required them to indicate the grade they personally considered to be a failure. The students had to select this grade from an ascending scale of success with one of five possible answers (F, D, C, B, A, respectively). The average grade of each student on the final exams was recorded on the same 5-point scale. Then, following the procedure of Metalsky et al. (1987), we subtracted the individual average grade from the grade considered by each participant to be failure. In this way, the final scores reflect relative failure on the final exams, that is to say, the higher the score, the greater the failure. The score also reveals the divergence between aspirations and real outcomes. In our sample of 151 participants, 105 obtained a grade lower or equal to that which they had considered to be a personal failure in the aspirations questionnaire, 46 obtained academic grades that were superior to those that they previously considered to be a personal failure, and 15 had incomplete data.

***Procedure.*** At Time 1, before taking their final exams, participants completed the ASQ-A and the aspirations questionnaire. Four days later, the students took their final exams, and within 24 hr they received their exam grades. At Time 2, which was 24 hr after receiving the grades, participants completed the PAQ. The ASQ-A and PAQ measures were completed over a 6-day period. Students were asked to write their names on the front page of each questionnaire. A person with no previous contact with the participants distributed the questionnaires, and they were informed that the front pages would be removed and their names replaced by code numbers prior to data scrutiny. It is therefore unlikely that the responses are attributable to demand characteristics.

For the analyses, we used the results of only those 105 students who obtained a grade lower or equal to that which they had considered to be a personal failure in the aspirations questionnaire administered 5 days previously. Only 52 participants of the 105 students (49.5%) wished to participate in the PAQ evaluation. Interestingly, this percentage contrasts markedly with the 80.4% (37 out of 46 students) who took part in the PAQ evaluation and whose academic grades were superior to those that they previously considered to be a personal failure. Consequently, the final sample consisted of 52 participants (33 male, 19 female, with a mean age of 18.33 years, $SD = 0.47$).

## Results

The descriptive statistics and intercorrelations of the study variables are presented in Table 4. Female adolescents showed a higher PAQ Globality than did male adolescents, $t(50) = -3.40$, $p = .001$. None of the other gender differences were significant. A standard regression analysis was carried out in order to predict the total PAQ scores at Time 2 from the composite ASQ-A scores at Time 1. As predicted, the total ASQ-A significantly predicted the total PAQ scores ($\beta = .39$), $F(1, 50) = 8.69$, $p < .05$, and it accounted for 14.8% of the variance. To determine the unique contributions of the attributional style subscales at Time 1 to each PAQ subscale at Time 2, three separate stepwise regression analyses were conducted that used the Internality, Stability, and Globality subscale scores of the PAQ as dependent variables. The

Table 4
*Descriptive Statistics and Correlations Between ASQ-A Subscale Scores (Time 1) and PAQ Dimensions (Time 2)*

| | PAQ dimension and total | | | |
|---|---|---|---|---|
| ASQ-A subscale and total | Internality ($M = 5.12$, $SD = 1.85$) | Stability ($M = 5.15$, $SD = 2.02$) | Globality ($M = 4.50$, $SD = 2.02$) | Total ($M = 14.77$, $SD = 3.78$) |
| Internality ($M = 4.68$, $SD = 0.65$) | .31* | .09 | −.06 | .16 |
| Stability ($M = 4.77$, $SD = 0.92$) | .27 | .50*** | .14 | .44** |
| Globality ($M = 4.64$, $SD = 0.89$) | −.25 | .02 | .39** | .09 |
| Total ($M = 14.09$, $SD = 1.52$) | .15 | .36* | .29* | .39** |

*Note*. $N = 52$. ASQ-A = Attributional Style Questionnaire for Adolescents; PAQ = Particular Attributions Questionnaire.
* $p < .05$. ** $p < .01$. *** $p < .001$.

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predictor variables for each regression analysis were the scores of the Internality, Stability, and Globality subscales of the ASQ-A. With PAQ Internality as the dependent variable, only the ASQ-A Internality variable satisfied the selection criteria ($\beta = .31$), $F(1, 50) = 8.69$, $p < .01$, and it accounted for 9.5% of the variance. When PAQ Stability was the dependent variable, only the ASQ-A Stability variable entered the model ($\beta = .50$), $F(1, 50) = 17.03$, $p < .001$, and it accounted for 25.4% of the variance. The analysis that used PAQ Globality permitted the unique ASQ-A Globality variable to enter the equation ($\beta = .39$), $F(1, 50) = 8.76$, $p < .01$, and it accounted for 14.9% of the variance. To summarize, the results of regression analyses showed that the scores obtained by the students with unsatisfactory personal outcomes in each ASQ-A attributional dimension predicted specifically the subsequent internal, stable, or global attribution they made for their poor performance in their final-year grades.

## Study 4: Sensitivity of ASQ-A Scores to Stressful Life Events

### Overview

In the context of the hopelessness theory of depression, Abramson et al. (1989) suggested that stressful life experiences could be the source of negative attributional styles. Longitudinal research supports the view that exposure to stressful life events contributes to producing changes in young adolescents' attributional styles (Garber & Flynn, 2001). Similar results have been reported with children (Nolen-Hoeksema et al., 1992) and young adults (Johnson & Miller, 1990; Tiggemann, Winefield, Winefield, & Goldney, 1991). In addition, the findings of other authors regarding cognitive vulnerability suggest that the cognitive schemas that predispose some individuals to depression are not stable traits (e.g., Haaga, Dyck, & Ernst, 1991; Ingram, 2001; Segal, 1988). More recently, Gibb et al. (2006) determined that some factors, such as elevated levels of depressive symptoms or reports of verbal victimization, are good predictors of negative change in children's attributional styles. Consequently, the purpose of Study 4 was to examine whether ASQ-A might reveal a general sensitivity to stressful life events for our population of adolescents over the studied 8-month period.

### Method

***Participants.*** From the initial pool of 240 students of Study 2, we chose those from 9th to 11th grade who had been eliminated from the predictive validity analyses of Study 3. Of the 74 participants of Study 2 who met this criterion, only 42 stayed in school to be evaluated in the subsequent academic year. Because of this, the final sample contained 42 participants (17 male, 25 female), whose ages ranged from 16 to 19 years ($M = 16.88$; $SD = 0.86$).

***Measures.*** Together with the ASQ-A, the Life Experiences Survey (LES; Sarason, Johnson, & Siegel, 1978) was used. The LES is a 70-item self-report measure that asks students to evaluate the impact of stressful life events experienced during the previous year on a 7-point Likert scale that ranges from –3 (*extremely negative*) to +3 (*extremely positive*). The aggregate of the absolute values of these scores results in the life-stress score. Life-stress scores on this scale therefore range from 0 to 210. In this study, the scale was adapted to cover a period of 8 months. The LES scale alpha coefficients range from .56 to .88. According to Sarason et al. (1978), the test–retest coefficients of this scale range from .63 to .64 over a 5- to 6-week period. Stressful life-event scores correlate significantly and positively with several variables such as anxiety, personal maladjustment, depression, and a perception of inadequate control over reinforcement contingencies. To provide a Spanish version of this measure, we translated items of the scale into Spanish using the back-translation procedure described by Brislin et al. (1993). In addition, several life-stress items (i.e., Items 13, 17, 23, 25, 26, 27, 28, and 32) were specially adapted for adolescent samples. For example, "Major change in number of arguments with spouse (a lot more or a much fewer arguments)" was changed to "Major improvement, or deterioration, of relationships with parents (many more arguments or much fewer)" (Item 26), and "Being fired from job" was changed to "Expelled from school" (Item 32). Following these changes, the LES scores for this sample gave a high level of reliability ($\alpha = .82$). Distribution of the scores for the current sample ($M = 20.59$, $SD = 12.14$) indicated that most adolescents suffered a low level of stressful life events during the 8-month period assessed.

***Procedure.*** At Time 1, the students completed the ASQ-A. Eight months later, at Time 2, they reported on the LES the importance of the stressful life events that they had experienced during that period, and they completed the ASQ-A questionnaire again. Two groups of participants were differentiated by their LES scores, using a criterion of 0.25 *SD* above and below the mean. As a result, 18 participants were included in the high life-stress group ($M = 32.83$; $SD = 6.05$), and 19 were included in the low life-stress group ($M = 9.47$; $SD = 4.44$); the other five were unclassified.

### Results

To investigate whether possible changes in attributional style over time might be influenced by the impact of stressful life events experienced, we conducted a mixed analysis of variance on each of the scores of Internality, Stability, and Globality, as well as on the composite ASQ-A scores.

The stressful life events condition served as the between-groups factor, and the Time 1–Time 2 attributional scores served as the within-group factor. When considered as main factors, neither the stressful life events condition nor time produced significant effects. However, as expected, we found a significant Stressful Life Events × Time interaction effect on Globality attributions, $F(1, 35) = 4.58$, $p < .05$, $\eta_p^2 = .116$, and a nearly significant effect on Stability attributions, $F(1, 35) = 3.69$, $p = .063$, $\eta_p^2 = .095$. Simple effects analyses revealed that there were differences between life-stress groups only in Time 2, suggesting that attributional styles were influenced by the stressful events experienced during the 8-month time period for Globality, $F(1, 35) = 6.07$, $p < .05$; $\eta_p^2 = .153$, and Stability, $F(1, 35) = 5.07$, $p < .05$; $\eta_p^2 = .127$. Figure 1 shows a tendency for participants with high life stress to increase their Globality and Stability attributional scores between Time 1 and Time 2, whereas, interestingly, these scores for participants with low life-stress tended to decrease. However, within-group simple effects for time changes only approached significance for the low life-stress group on Stability scores, $F(1, 35) = 3.98$, $p = .054$; $\eta_p^2 = .102$; other within-group effect sizes were

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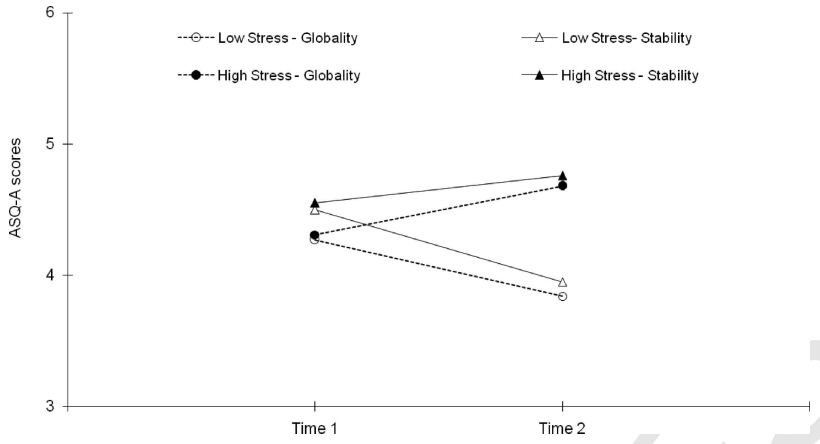


*Figure 1.* Mean Stability and Globality scores on the Attributional Style Questionnaire for Adolescents (ASQ-A) as a function of stressful life events across time.

$\eta_p^2$ = .071 on Globality scores for the low life-stress group and $\eta_p^2$ = .015 and $\eta_p^2$ = .052 on Stability and Globality scores, respectively, for the high life-stress group. No significant differences were found in Internality scores or in the composite ASQ-A scores. Likewise, the Stressful Life Events × Time × Gender interaction was not significant for any of the attributional scores.

## General Discussion

We developed a new attributional style questionnaire specifically for adolescents: the ASQ-A. The four studies of the present work are the first to develop and examine in depth the psychometric properties of a new questionnaire based on the previous ASQ and CASQ scales, modified specifically to assess attributional style in adolescents. We propose ASQ-A as a tool to study the several relationships between attributional styles and depressive phenomena during adolescence. The results of these four studies led us to conclude that, on the basis of its strong psychometric properties, the ASQ-A scale will provide an important and valuable tool to the literature. It is noteworthy that our selection of items especially relevant for Spanish adolescents in Study 1 has been an adequate step in order to culturally adapt the new scale. In addition, the consecutive reduction approach based on the item–subscale correlations and factor loadings has proven to be appropriate. In Study 2, the factor analysis supported the validities of each of the Internality, Stability, and Globality dimensions. Despite the relatively small amount of variance explained by the three selected factors (24.5% of the total variance), this is somewhat higher than was reported on the original ASQ (Arntz et al., 1985), and the factor structure of the ASQ-A confirms the three theoretically derived ASQ component factors of Seligman et al. (1979). However, similar to the results of previous studies, the Internality dimension has proved to be less robust than the other two dimensions. This will be discussed shortly.

The internal consistency of our new questionnaire can be considered highly satisfactory. The alpha coefficients, which range from .68 to .87, were greater than those found in the ASQ and CASQ subscale scores and were comparable or higher than those obtained in the extended versions of the ASQ (see introductory paragraphs). However, it is of note that our Internality subscale alpha coefficient—although higher than the coefficients found for the ASQ, extended ASQs, and CASQ Internality subscales—is markedly lower than the coefficients for our Globality and Stability subscales, suggesting that the Internality dimension was not as homogenous as were the Globality and Stability dimensions.

The intercorrelations between the ASQ-A subscales showed consistent results with those of Joiner and Rudd (1996), who revealed that attributional Stability and Globality dimensions combine to form a single factor, Generality. Our Stability and Globality subscales were closely intercorrelated and were both largely independent of Internality, similar to the results obtained for the ASQ and the Expanded Attributional Style Questionnaire (EASQ; Peterson & Villanova, 1988; Peterson et al., 1982). Moreover, the internal consistencies of the Stability and Globality subscales were higher than the intercorrelations between them, which indicate that the Stability and Globality subscales can be clearly differentiated (Campbell & Fiske, 1959).

The results of Study 2 also revealed the evident convergent validity of ASQ-A scores. The correlations of the Stability and Globality subscale scores with several other theoretically associated variables, although modest, are within the usual range for attributional dimensions (Peterson, 1991) and are also typical for other personality dimensions. We found that both the Stability and Globality subscale scores were associated with HD symptoms. However, Internality scores did not relate to HD symptoms, and this is consistent with the hopelessness theory assertion that HD is unique to Generality attributional style. The fact that Stability and Globality scores on the ASQ-A were also found to be directly related with the scores of the PANAS-NA supports previous results (Hilsman & Garber, 1995; Houston, 1995; Luten, Ralph, & Mineka, 1997) that confirmed the hypothesis that the Generality attributional style is not specific to depression but is more related to negative affects. Only Globality scores on the ASQ-A were found to be associated with general depressive symptoms. This finding, in combination with the result that female adolescents showed both higher Globality ASQ-A scores and higher Globality PAQ scores than did male adolescents, is consistent with the higher increase in levels of depressive symptoms exhibited by female adolescents during this stage of life (Ge et al., 1994; Ge,

Conger, & Elder, 2001; Hankin & Abramson, 2001; Hankin et al., 1998). Contrary to our hypothesis, however, the nonsignificant relationship of total ASQ-A scores with low self-esteem failed to support the hopelessness theory of depression statement that when internal, stable, and global attributions are combined (composite ASQ-A score), attributional style relates to self-esteem. These results have implications for the Internality dimension validity that we discuss shortly.

The results of the regression analyses in Study 3 revealed that the scores on the ASQ-A predicted which students would develop later maladaptive attributions for their poor performances on the final exams of the academic year. These findings, which conform with the previous research results (Metalsky et al., 1987, for the ASQ; Peterson & Villanova, 1988, for the EASQ; Reijntjes, Dekovic, Vermande, & Telch, 2007, for the CASQ), reveal the capacity of the Internality, Stability, and Globality subscales of the ASQ-A to predict the respective internal, stable, and global attributions that the students would make in negative stressful academic evaluations. Thus, these results supported the predictive validity of the ASQ-A scores using a prospective design in which specific attributions were elicited from a real-life stressful situation.

Finally, Study 4 revealed the high sensitivity of ASQ-A scores to adolescents' experience of stressful life events in a longitudinal design. Despite Abramson et al.'s (1989) suggestion that stressful life events could be the source of negative attributional styles, there are no accurate predictions regarding how these changes could proceed and whether they could be expected to be symmetrical. In our study, the Stressful Life Events $\times$ Time interaction showed that the Stability and Globality attributional styles evolved differently depending on the level of stress experienced by the participants. These results are consistent with Garber and Flynn's (2001) findings, which describe the influence of stressful events on young adolescents' changes in attributional styles—findings that, interestingly, have not been found in children (Gibb et al., 2006). Although within-group simple effects to explore the interaction did not yield significant differences, a closer inspection of the means revealed a seemingly higher decreasing than increasing effect, which could be related to the level of attributional scores of our participants at Time 1. The measure at Time 1 was taken at the end of the academic year, when the final exams took place, whereas the measure at Time 2 was taken in the middle of the next academic year and thus, it could be hypothesized, the stress level and, consequently, maladaptive attribution levels were upwardly biased at Time 1. Actually, indirect evidence for this interpretation is that our means at Time 1 were higher than those reported for the Stability and Globality original ASQ subscales for negative events (Asner-Self & Schreiber, 2004; Corr & Gray, 1996; Higgins et al., 1999; Peterson et al., 1982). Further research is needed to determine the relationship between adolescent stressful life experiences and associated maladaptive attributional styles. From these results, we can conclude that the ASQ-A is an effective tool for detecting attributional style changes in adolescence and is suitable for testing refinements of diathesis-stress models of depression (e.g., Hankin & Abramson, 2001), which suggest transactional, rather than unidirectional, relations between stressful life events, attributional styles, and depressive symptoms. However, the sample in this Study 4 is relatively small—less than 50% of the original participants agreed to take part in the final phase of the study—which limits the generalizability of these findings.

An important limitation raised by our results is that the reliability and validity of the ASQ-A Internality dimension of attributional style can be questioned. In this work Internality emerged as a unique factor, and its reliability appeared to have improved in regard to previous scales, such that its future use in research settings is warranted. However, the reliability for the Internality subscale is still much lower than those for the Stability and Globality subscales of the ASQ-A, and new improvements are needed. Joiner and Metalsky (1999) argued that the low reliability of the Internality dimension seems to be a construct-wise, rather than a measurement-wise, problem, and it reveals a lack of consistency in the internal attributions per se. Likewise, several researchers have suggested that the attributional style construct could be overlooking an important attributional dimension: the controllability of the attributed cause (Anderson, Jennings, & Arnoult, 1988; Brown & Siegel, 1988; Hewitt, Foxcroft, & MacDonald, 2004; Peterson, 1991; Rodríguez-Naranjo, Godoy, & Esteve, 2001; Soria et al., 2004; Stoltz & Galassi, 1989). In fact, Brown and Siegel (1988) reported that when individuals attribute important negative life events to controllable causes, their internal attributions predict less severe depression. Moreover, Peterson (1991) showed that the Internality factor of attributional style comprises, in addition to the Internality attributions, the level of predictability and controllability attributed by individuals, whereas the Stability and Globality dimensions are purer factors. Individuals, because of a possible overlap between the attributional styles of Internality and Controllability, might make less consistent Internality attributions than those they offer for the Stability and Globality attributions. The patterns of results that emerged from these studies and others (Bruch & Belkin, 2001; Higgins & Morrison, 1998; Luzzo, James, & Luna, 1996) support the argument of Janoff-Bulman (1979) that treating Internality–Externality as a single attributional dimension is an oversimplistic and inadequate way of characterizing attributions. On this basis, to refine the Internality subscale further and test whether internal depressive attributions about negative events are consistent across controllable versus uncontrollable situations is an important area for future research.

To summarize, the results of our four studies support the idea that the ASQ-A could be a particularly effective instrument in the evaluation of attributional style in adolescents. Attributional style has been comprehensively studied among adults and evidences theoretically meaningful associations with an array of outcomes. Despite the widespread examination of attributional style among adults, the construct has not shown consistent results among adolescents, perhaps because of the lack of a reliable and valid measure. The current set of studies sought to fill this empirical gap and support the psychometric properties of the Attributional Style Questionnaire for Adolescents (ASQ-A). Nevertheless, we acknowledge the limitations of the Internality ASQ-A subscale—and those of the Internality attributional dimension in general—which may not be a good representative of the attributional style construct. We hope that having an adequate adolescent attributional style measure will lay the foundation for continued work in this important domain. Finally, although this study offers initial validity of the ASQ-A in a Spanish-speaking sample, further cross-cultural studies are needed to establish the extent to which the

inferences obtained with the ASQ-A scale can be generalized to analogue adolescents across different sociocultural and linguistic contexts.

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## Appendix

## The Attributional Style Questionnaire for Adolescents

*Events from the Attributional Style Questionnaire for Adolescents (ASQ-A)*

1. Imagine that your studies are going badly.
2. Imagine that you are overworked preparing for your exams.
3. Imagine that you are worried about your exam results.
4. Imagine that your exam results are bad.
5. Imagine that you have been expelled from school.
6. Imagine that you have been reprimanded in school.
7. Imagine that you are undecided whether to continue your studies or not.
8. Imagine that you cannot do everything expected of you.
9. Imagine that in the first year in your future profession you receive a bad assessment of your work from your superior.
10. Imagine that your father (or primary caregiver) is angry, shouts at you, and punishes you for something that has happened.
11. Imagine that you have been unable to sleep well for some time.
12. Imagine that you have a serious conflict about the rights and wrongs of a personal situation.
13. Imagine that you have a serious conflict or disagreement with your parents.

(*Appendix continues*)

tapraid5/z1t-assess/z1t-assess/z1t00410/z1t2259d10z | xppws | S=1 | 7/8/10 | 4:28 | Art: 2009-0099



14. Imagine that you often feel tired and run down.
15. Imagine that you have a problem with the opposite sex.
16. Imagine that you feel uncomfortable in a situation.
17. Imagine that you have very few friends.
18. Imagine that a person whom you would like to have as a close friend does not want to be your friend.

*Directives*

Please try to vividly imagine yourself in each of the following situations or sequences of events. Picture each situation as if the events were happening to you right now. See yourself in each situation and decide what you feel could have caused it. Although most events may have many causes, we ask you to choose only the most important one for each event. Write down the cause in the space provided. Next, we shall ask three questions about the cause and then a final question about how important would the situation described be to you. When you answer these questions, choose the value on a scale closest to your perception of the cause you mentioned. To summarize:

Think about each situation and vividly imagine it happening to you. Then,

1. Decide what you consider might be the most important cause of the situation if it had happened to you.
2. Write one cause in the space provided.
3. Answer three questions about that cause.
4. Answer one question about the situation.
5. Continue to the next situation and repeat this process.

Remember, there are no right or wrong answers to the questions. Simply answer the questions in a way that shows what you would think and feel if the situations actually happened to you.

*Scoring Options*

**Situation 1. Imagine that your studies are going badly.**

1. Write down the most important cause of why your studies might be going badly.

_____

2. Is the cause you have written due to something about yourself, or to something about other people or circumstances? (circle one number)

| | | |
|---|---|---|
| Totally due to other people or circumstances | 1 2 3 4 5 6 7 | Totally due to me |

3. In the future, should your studies go badly again, would your chosen cause again be present? (circle one number)

| | | |
|---|---|---|
| Will never again be present | 1 2 3 4 5 6 7 | Will always be present |

(*Appendix continues*)

tapraid5/z1t-assess/z1t-assess/z1t00410/z1t2259d10z | xppws | S=1 | 7/8/10 | 4:28 | Art: 2009-0099



4. Is the chosen cause something that only influences the fact that your studies are going badly, or does it also influence other areas of your life? (circle one number)

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Influences only this particular situation | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Influences all situations in my life |

5. Imagine your studies are going badly. How important is this to you? (circle one number)

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Not at all important | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Extremely important |

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# AUTHOR QUERIES

**AUTHOR PLEASE ANSWER ALL QUERIES** **1**