Cultural Appropriateness of the Family Assessment Device (FAD) in the Case of Ethnic Armenian Adolescents in Lebanon

Shahe S. Kazarian

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ABSTRACT

Background: The purpose of this study is to report on the cultural appropriateness of the 60-item Armenian version of the Family Assessment Device (FAD) among ethnic Armenian adolescents in the ethnically and religiously pluralist Lebanon.

Method: A total of 558 Armenian adolescents in Grades 10, 11 and 12 completed the Armenian FAD scale and the Self-Family Closeness (SFC) scale in a randomized order. The internal consistencies and intercorrelations of the Armenian FAD domains were examined, as were their correlations with the SFC ratings.

Results: The Armenian FAD and its General Functioning subscale showed excellent internal consistencies (α = 0.89 and α = 0.80, respectively), whereas the reliabilities were satisfactory for the family domains of Communication and Role functioning but less than satisfactory for the Affective Responsiveness, Problem Solving, Affective Involvement and Behaviour Control domains. The Armenian FAD scale and its subscales correlated with each other and with SFC ratings ($r = -0.55$ for Armenian FAD scale; $r = -0.57$ for General Functioning), and showed sensitivity to gender differences, females reporting better family functioning than males.

Conclusions: Overall, the findings support the cultural appropriateness of the 12-item Armenian FAD General Functioning subscale and its advantage over the 60-item scale. The findings also suggest the need to rethink the items of the four Armenian FAD domains with low internal consistencies for their increased cultural relevance in the case of Armenian adolescents in Lebanon.

Key words: affective involvement, affective responsiveness, behaviour control, communication roles, FAD, general functioning, problem solving

BACKGROUND

The Family Assessment Device (FAD) is a widely used self-report measure of perceived family functioning (Kabacoff et al., 1990). The 60-item FAD is theoretically grounded in the McMaster Model of Family Functioning, which posits a general family functioning dimension and the six family functioning domains of Problem Solving, Communication, Roles, Affective Responsiveness,
Affective Involvement, and Behaviour Control (Epstein, et al., 1978; Epstein et al., 2000; Miller et al., 2000). Problem Solving assesses a family’s ability to resolve affective and instrumental problems. Communication measures verbal expression of clear and direct messages within the family. Roles assesses recurrent patterns of behaviour that fulfill affective and instrumental needs of family members. Affective Responsiveness measures the ability of family members to respond appropriately to a range of affective experiences in the family context. Affective Involvement evaluates the care, concern and interest family members invest in each other. Behaviour Control assesses approaches to handling physically dangerous situations and standards of conduct in the familial milieu.

Since the inception of the FAD in the USA, the reliability and validity of the scale or its General Functioning subscale have been evaluated in North America (Bihun et al., 2002; Kabacoff et al., 1990; Byles et al., 1988; Epstein et al., 1983; Geogiardes et al., 2008). Also the FAD or its General Functioning subscale have been translated into a variety of languages for use with such ethnic groups as Hispanic-Americans (Walrath et al., 2004) and Hawaiian- and Japanese-Americans (Morris, 1990), and in European and Asian countries including Italy (Roncone et al., 1998), Hungary (Keitner et al., 1991), the Netherlands (Wenninger et al., 1993), China (Shek, 2002) and Japan (Saeki et al., 2002).

In view of the limited application of the 60-item FAD (Slonim-Nevo & Shraga, 1997) and its General Functioning subscale to majority societies and ethnic minorities in the pluralist Middle East (Al-Krenawi & Graham, 2004, 2006; Al-Krenawi et al., 2002; Al-Krenawi et al., 2001; Kazarian, 2005, in press; Kazarian & Martin, 2006; Lev-Wiesel et al., 2007), the cultural appropriateness of an Armenian translation of the 60-item FAD was examined among ethnic Armenian adolescents in Lebanon.

While the family of ethnic Armenians in the American pluralist host culture has been the subject of description (Dagirmanjian, 2005) and psychosocial research (Ayrapetian, 2006; Ayvazian, 1996; Ghazarian et al., 2008; Phinney et al., 2005; Tchakmakjian, 2004), family studies on ethnic Armenians in host Middle Eastern countries generally and in Lebanon in particular are lacking. At present, ethnic Armenians in Lebanon are estimated to be no more than 105,000 people (Tololyan, 2000) in a population close to four million, their numbers having diminished considerably as a result of the protracted civil war of 15 years’ duration (1975–1990).

The structure of the Armenian family in Lebanon is such that it consists of several cohesive and loyal nuclear families living as close as feasible and providing the necessary social security network for quality of life. Family anoun (name) and badiv (honour) are highly valued among Armenians such that family members are socialized to a self that is an extension of family and kin, is of high moral standards, and is disengaged in any conduct that may invoke amot (shame) to the family and the ethnic Armenian community.

In the present study, the cultural appropriateness of an Armenian translation of the 60-item FAD was examined in terms of reliability and validity in the case of Armenians in Lebanon. The Armenian FAD domains were expected to show acceptable internal consistencies and significant correlations with a measure of family connectedness. Also, male ethnic Armenian adolescents were hypothesized to rate their family functioning less favourably than female ethnic Armenian adolescents. It was postulated that the Armenian socialization of males would be less involved and expressive of affect in the family context than their female counterparts and this would be likely to negatively influence their perception of the family (Shek, 2002).
METHODS

Setting and procedure
A total of 558 Armenian high school students who identified themselves as Lebanese (89.8%) or Lebanese dual citizens (10.2%) participated in the study. The majority of the participants were female (59.7% [n = 322]) and single (98.1%), and their mean age was 16.9 years (n = 530, SD = 1.20). Participants were in Grade 10 (36.7%), Grade 11 (26.4%) and Grade 12 (36.9%) and were drawn from nine private Armenian secondary schools in which the primary language of instruction was Armenian. Eight of the schools were located at the capital city of Greater Beirut; the ninth was in the rural area of Anjar. Five of the schools were Armenian Apostolic, three were Armenian Evangelical, and one was Armenian Catholic. Participants completed questionnaire booklets including the 60-item FAD (Kabacoff et al., 1990) and the SFC scale (Li, 2002) in a randomized order in their classrooms. All participants signed informed consent forms.

Measures
The English version of the FAD was translated following a back-translation methodology. Two psychology graduate students from the American University of Beirut were involved in the translation process such that the original English version of the FAD was translated into Armenian by one of the translators, and the Armenian version was then translated back to English by the second translator, independent of the first translator. The two English versions were then compared and differences reconciled. The Armenian FAD was also shown to a bilingual school principal from one of the participant institutions for feedback before final use in the study.

The Armenian FAD is a 60-item self-report scale for assessing seven subscales of family functioning (General Functioning, 12 items; Problem Solving, six items; Communication, nine items; Roles, eleven items; Affective Responsiveness, six items; Affective Involvement, seven items; and Behaviour Control, nine items). Respondents indicated the degree to which they agreed with each item using a four-point rating scale, higher scores indicating poorer family functioning. While the internal consistency of the overall English version of the FAD is not reported by Kabacoff et al. (1990), the authors have reported reliabilities of 0.83 for the General Functioning subscale, 0.74 for the Problem Solving subscale, 0.70 for the Communication subscale, 0.57 for the Roles subscale, 0.73 for the Affective Responsiveness subscale, 0.76 for the Affective Involvement subscale and 0.70 for the Behaviour Control subscale.

The SFC scale (Aron et al., 1992; Li, 2002), an adaptation of the Inclusion of Other in the Self (IOS) scale (Aron et al., 1992) and Self-Close-Other(s) scale of Li (2002), is a single-item measure of family connectedness. The scale has seven Venn-like diagrams of two same-size circles, one circle representing the self and the other circle representing the family, which are adjacent to each other but the degree of their overlap progresses linearly (Figure 1). Using a seven-point rating scale, respondents were required to select one of the seven pictures of the scale to indicate their level of connectedness to their family, higher scores indicating higher closeness of self to family. Participants were instructed to draw their own diagrams if none of the pictures described their relationship with their family. None of the adolescent participants in the present study resorted to this option. The reliability and validity of self-close-other scales are established in the contexts of close family relations such as parents and siblings and friendship relationships (Li, 2002).
The pictures below represent a person’s relationship with his/her family. In this case, one of the circles represents the person and the other circle the person’s family. Please circle the number associated with the picture which best describes your relationship with your family. If none of the pictures presented below describes your situation, please draw one yourself.

Your relationship with your family

Figure 1. Self-Family Closeness scale

Table 1
Correlations for Armenian-FAD subscales (n = 558) and SFC (n = 517)

<table>
<thead>
<tr>
<th>Scales*</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>SFC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. FAD</td>
<td>–</td>
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<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
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<tr>
<td>2. GF</td>
<td>0.90</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. PS</td>
<td>0.62</td>
<td>0.55</td>
<td>–</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>4. C</td>
<td>0.79</td>
<td>0.69</td>
<td>0.48</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. R</td>
<td>0.73</td>
<td>0.56</td>
<td>0.34</td>
<td>0.46</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. AR</td>
<td>0.76</td>
<td>0.62</td>
<td>0.37</td>
<td>0.56</td>
<td>0.42</td>
<td>–</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>7. AI</td>
<td>0.72</td>
<td>0.52</td>
<td>0.23</td>
<td>0.40</td>
<td>0.38</td>
<td>0.41</td>
<td>–</td>
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<td></td>
</tr>
<tr>
<td>8. BC</td>
<td>0.57</td>
<td>0.39</td>
<td>0.28</td>
<td>0.26</td>
<td>0.36</td>
<td>0.27</td>
<td>0.28</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>9. SFC</td>
<td>–0.55</td>
<td>–0.57</td>
<td>–0.35</td>
<td>–0.48</td>
<td>–0.30</td>
<td>–0.48</td>
<td>–0.32</td>
<td>–0.23</td>
<td>–</td>
</tr>
<tr>
<td>M</td>
<td>2.22</td>
<td>2.02</td>
<td>2.09</td>
<td>2.22</td>
<td>2.37</td>
<td>2.32</td>
<td>2.20</td>
<td>2.33</td>
<td>4.99</td>
</tr>
<tr>
<td>SD</td>
<td>0.30</td>
<td>0.44</td>
<td>0.36</td>
<td>0.43</td>
<td>0.37</td>
<td>0.48</td>
<td>0.41</td>
<td>0.38</td>
<td>1.37</td>
</tr>
<tr>
<td>α</td>
<td>0.89</td>
<td>0.80</td>
<td>0.50</td>
<td>0.67</td>
<td>0.60</td>
<td>0.59</td>
<td>0.48</td>
<td>0.48</td>
<td>–</td>
</tr>
</tbody>
</table>

FAD = Family Assessment Device; GF = General Functioning; PS = Problem Solving; C = Communication; R = Roles; AR = Affective Responsiveness; AI = Affective Involvement; BC = Behaviour Control; SFC = Self-Family Closeness scale

*All correlations p < 0.01

The graphic nature of the scale precluded the need for translation of the SFC; however, the instructions for the scale were translated from English to Armenian.

RESULTS

Armenian FAD internal consistencies and intercorrelations

Descriptive information for the Armenian FAD and each of the seven subscales were summarized, as were subscale internal consistencies and intercorrelations (Table 1). The internal consistency of the 60-item Armenian FAD was high \( \alpha = 0.89 \), a finding consistent with internal consistencies \( \alpha = 0.88 \) reported by Roncone et al. (1998) for their Italian FAD and \( \alpha = 0.93 \) reported by Aarons et al. (2007) for their Hispanic-American group. Similarly, the internal consistency of the General Functioning subscale was high \( \alpha = 0.80 \), a finding consistent with reliabilities reported in North America (Aarons et al., 2007; Bihun et al., 2002; Geogiardes et al., 2008; Kabacoff et al., 1990), Western Europe (Roncone et al., 1998), Asia (Shek, 2002) and the Middle East (Al-Krenawi & Graham, 2006; Kazarian, 2005, in press; Kazarian & Martin, 2006). Taken together, these findings
support the excellent reliability of the Armenian FAD and its General Functioning subscale in the case of ethnic Armenian adolescents in Lebanon.

On the other hand, the internal consistencies of the six subscales were satisfactory for Communication ($\alpha = 0.67$) and Roles ($\alpha = 0.60$) and less than satisfactory for Affective Responsiveness ($\alpha = 0.59$), Problem Solving ($\alpha = 0.50$), Affective Involvement ($\alpha = 0.48$) and Behaviour Control ($\alpha = 0.48$). The internal consistencies of the six family domains obtained in the present study are generally lower or comparable to those reported by other investigators (Aarons et al., 2007; Bihun et al., 2002; Kabacoff et al., 1990; Roncone et al., 1998). Overall, these findings support the satisfactory reliability of the Communication and Roles domains of the Armenian FAD but not the remaining four family functioning domains.

Armenian FAD total scores correlated highly $r = 0.90$ ($p < 0.0001$) with General Functioning scores; $r = 0.62$ ($p < 0.0001$) with Problem Solving scores; $r = 0.79$ ($p < 0.0001$) with Communication scores; $r = 0.73$ ($p < 0.0001$) with Roles scores; $r = 0.76$ ($p < 0.0001$) with Affective Responsiveness scores; $r = 0.72$ ($p < 0.0001$) with Affective Involvement scores; and $r = 0.57$ ($p < 0.0001$) with Behaviour Control scores. The seven FAD scales also correlated highly to moderately with each other ($r = 0.26–0.69$), a finding consistent with the theoretical expectation of interrelatedness among the different family domains, and empirical findings reported by others (Aarons et al., 2007; Kabacoff et al., 1990; Roncone et al., 1998). Overall, the intercorrelations of the Armenian FAD scale and subscales support the validity of the measure in the case of ethnic Armenian adolescents in Lebanon.

Armenian FAD and SFC scale
SFC scores correlated highly $r = -0.55$ ($p < 0.0001$) with Armenian FAD scores; and $r = -0.57$ ($p < 0.0001$) with General Functioning scores (Table 1). Similarly, SFC scores correlated moderately $r = -0.35$ ($p < 0.0001$) with Problem Solving scores; $r = -0.48$ ($p < 0.0001$) with Communication scores; $r = -0.30$ ($p < 0.0001$) with Roles scores; $r = -0.48$ ($p < 0.0001$) with Affective Responsiveness; $r = -0.32$ ($p < 0.0001$) with Affective Involvement scores; and $r = -0.23$ ($p < 0.0001$) with Behaviour Control scores. Overall, the correlations of the Armenian FAD scale and subscales with the family connectedness measure provide additional support to the convergent validity of the measure in the case of ethnic Armenian adolescents in Lebanon.

Armenian FAD norms and sociodemographic differences
Age correlated significantly but weakly with Behaviour Control ($r = 0.10, p < 0.05$) but not with the remaining Armenian FAD scores (Table 2). Adolescents in Grades 10, 11 and 12 were comparable in their reporting of Armenian FAD total and subscale scores. On the other hand, as expected, scores of ethnic Armenian female adolescents were lower (healthier Armenian family functioning) than males on Armenian FAD scale, General Functioning, Problem Solving, Communication and Affective Responsiveness but not on Roles, Affective Involvement and Behaviour Control.

DISCUSSION

To the best of our knowledge, this is the first study that validates the 60-item Armenian FAD among ethnic minority Armenian adolescents in the religiously and ethnically pluralist Lebanon. In the present study, the six domains of family functioning showed moderate intercorrelations,
confirming the theoretical interdependence of the dimensions posited by the McMaster Model of Family Functioning and supporting previous research in this regard in North America (Kabacoff et al., 1990) and western Europe (Roncone et al., 1998). The correlations of the Armenian FAD scores with SFC scale scores also supported the validity of the measure in the case of ethnic Armenian adolescents in Lebanon. Nevertheless, the reliabilities of four of the six family functioning domains (Problem Solving, Affective Responsiveness, Affective Involvement and Behaviour Control) were less than satisfactory. The lower internal consistencies reported here for the four family functioning domains indicate that all the items of these subscales may not be measuring the same underlying characteristics of their respective domains. Item relevance and translation nuances may have contributed to the four family constructs being more ‘loose’ than those reported for the English FAD domains. For example, ethnic Armenian adolescents had difficulty relating to the word kourkourank, the Armenian translation of the word affection in item 9, an Affective Response item. Similarly, they had difficulty appreciating the relevance of item 27 (We have no clear expectations about toilet habits) and item 48 (Anything goes in our family), both Behavior Control items, to family functioning. Qualitative analysis of the items of the problematic dimensions of family functioning, generation of more culturally grounded items to represent each of the problematic family functioning domains, and consideration of family dimensions that are indigenous to ethnic Armenians are possibilities for future consideration.

In the present study, the 60-item Armenian FAD showed excellent reliability, validity and sensitivity to gender differences suggesting its cultural appropriateness in the case of Armenians in Lebanon, as did its General Functioning subscale. The 12-item General Functioning subscale of the Armenian FAD also correlated highly with Armenian FAD total scores ($r = 0.90$). The findings on the Armenian FAD General Functioning subscale are consistent with previous research on Lebanese university students (Kazarian, 2005) and on a community sample of Armenian adults in Lebanon (Kazarian, in press), suggesting that the Armenian FAD General Functioning subscale is culturally appropriate in the case of Armenian adolescents in the ethnically and religiously pluralist Lebanon and that it has the advantage of being briefer than the 60-item Armenian FAD scale.

### Table 2

Armenian FAD scores for females ($n = 322$) and males ($n = 217$) and for Grades 10 ($n = 168$), Grade 11 ($n = 121$) and Grade 12 ($n = 168$) and correlations with age ($n = 530$)

<table>
<thead>
<tr>
<th>Scales</th>
<th>Gender</th>
<th>Grade levels**</th>
<th>Age</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAD</td>
<td>Female</td>
<td>Grade 10</td>
<td>Grade 11</td>
<td>Grade 12</td>
<td>Age</td>
<td></td>
<td></td>
<td></td>
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<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
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<tr>
<td>1. FAD</td>
<td></td>
<td>2.18</td>
<td>0.29</td>
<td>2.28*</td>
<td>0.30</td>
<td>2.19</td>
<td>0.30</td>
<td>2.22</td>
<td>0.33</td>
<td>2.22</td>
<td>0.27</td>
<td>0.06</td>
</tr>
<tr>
<td>2. GF</td>
<td></td>
<td>2.01</td>
<td>0.42</td>
<td>2.14*</td>
<td>0.43</td>
<td>2.03</td>
<td>0.44</td>
<td>2.07</td>
<td>0.49</td>
<td>2.06</td>
<td>0.38</td>
<td>0.04</td>
</tr>
<tr>
<td>3. PS</td>
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<td>2.04</td>
<td>0.35</td>
<td>2.16*</td>
<td>0.37</td>
<td>2.06</td>
<td>0.37</td>
<td>2.07</td>
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<td>2.10</td>
<td>0.32</td>
<td>0.02</td>
</tr>
<tr>
<td>4. C</td>
<td></td>
<td>2.08</td>
<td>0.41</td>
<td>2.19*</td>
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<td>2.15</td>
<td>0.45</td>
<td>2.10</td>
<td>0.40</td>
<td>2.09</td>
<td>0.40</td>
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<tr>
<td>5. R</td>
<td></td>
<td>2.33</td>
<td>0.36</td>
<td>2.41</td>
<td>0.36</td>
<td>2.33</td>
<td>0.36</td>
<td>2.36</td>
<td>0.38</td>
<td>2.36</td>
<td>0.33</td>
<td>0.07</td>
</tr>
<tr>
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<td>2.50*</td>
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<td>2.34</td>
<td>0.46</td>
<td>2.39</td>
<td>0.48</td>
<td>2.34</td>
<td>0.49</td>
<td>0.04</td>
</tr>
<tr>
<td>7. AI</td>
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<td>2.28</td>
<td>0.41</td>
<td>2.20</td>
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<td>2.23</td>
<td>0.41</td>
<td>2.27</td>
<td>0.41</td>
<td>0.08</td>
</tr>
<tr>
<td>8. BC</td>
<td></td>
<td>2.32</td>
<td>0.37</td>
<td>2.31</td>
<td>0.38</td>
<td>2.26</td>
<td>0.36</td>
<td>2.34</td>
<td>0.38</td>
<td>2.33</td>
<td>0.37</td>
<td>0.10***</td>
</tr>
</tbody>
</table>

FAD = Family Assessment Device; GF = General Functioning; PS = Problem Solving; C = Communication; R = Roles; AR = Affective Responsiveness; AI = Affective Involvement; BC = Behaviour Control.

* Comparisons significant $p < 0.01$; ** All comparisons non-significant; *** $p < 0.05$
In the present study, age did not correlate with Armenian FAD scores or correlated minimally in the case of Behaviour Control possibly due to sample size. Not unexpectedly, grade level also failed to correlate with Armenian FAD scores. While these findings suggest the independence of Armenian FAD scores from age and grade level, these conclusions are tentative as the age range of the present sample was narrow. In relation to gender, ethnic Armenian male and female adolescents were different in their assessment of family functioning except for Behaviour Control, supporting the overall expectation that ethnic Armenian male adolescents are likely to construe the Armenian family functioning more poorly than their female counterparts due to their gender-based socialization.

In summary, the present study provides preliminary support to the value of the Armenian FAD, particularly the General Functioning subscale, as a culturally appropriate measure of overall family functioning among ethnic Armenian adolescents in the Lebanese context. Nevertheless, the present study is limited in its focus on Armenian high school students attending ethnically homogenous schools in the urban city of Beirut and one rural area in the country. More diverse samples of Armenian adolescents and other ethnicities across regions in the country need to be considered in the future. As important, the relationship of the Armenian FAD to biological, social, psychological and spiritual outcomes needs to be examined. Future studies relating the Armenian FAD to parenting styles and psychosocial well-being are planned.

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Shahe S. Kazarian, Professor of Clinical Psychology, Department of Social and Behavioural Sciences, American University of Beirut, P.O. Box 11-0236, Beirut 1107-2020, Lebanon.

Correspondence to: sk29@aub.edu.lb