



The relationship between the experience of stuttering and demographic characteristics of adults who stutter

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ABSTRACT

Purpose: This study aims to examine the association between adults' experience of stuttering and their age, gender and marital status, as well as to evaluate the psychometric properties of the Hebrew version of the OASES-A.

Methods: The Hebrew version of the OASES-A was administered to 91 adults-who-stutter. The validity of the translated version was evaluated using a subset of 43 participants, who also completed three additional instruments: (a) a Perceived Stuttering Severity (PSS) self-rating scale, (b) the Situation Avoidance Behavior Checklist (SABC), (c) the Students Life Satisfaction scale (SLSS). Finally, the correlations between the participants' OASES-A scores and their age, gender and marital status were calculated.

Results: A negative correlation was found between the participants' OASES-A impact scores and their age ($p < 0.01$). In addition, married participants exhibited lower OASES-A impact scores compared with unmarried participants ($p < 0.05$). On the other hand, the speakers' gender was not associated with OASES-A impact scores.

Results: revealed high internal consistency of the Hebrew OASES-A, and moderate to strong correlations with the additional examined instruments. Finally, results of the Hebrew version of the questionnaire were comparable with those obtained in other languages.

Conclusion: Our results indicated that, within our cohort, age and marital status are significantly associated with the personal experience of stuttering, whereas gender is not. In addition, the Hebrew version of the OASES-A is valid and comparable with equivalent versions in other languages. This facilitates the application of the OASES-A in future clinical and research settings.

1. Introduction

Stuttering is considered a multidimensional disorder, with depth and magnitude far beyond the overt speech symptoms. This perspective was illustrated decades ago by Sheehan's iceberg analogy (1958), and it is still accepted theoretically and clinically (e.g., Yairi & Seery, 2014). Hence, it is agreed that measurements of overt stuttering do not necessarily represent the impact of the overall stuttering disorder on individual people who stutter (PWS) (Yairi & Seery, 2011). For example, some PWS exhibit mild overt stuttering, yet perceive it as a profound and disturbing experience. This may be manifested in fear of specific words, general behaviors of social/communicational avoidance, feelings of loss-of-control, anxiety, and excessive effort associated with speech and communication (Ingham & Cordes, 1997; Riley, Riley, & Maguire, 2004; Yairi & Seery, 2011). In contrast, other PWS may exhibit more severe overt stuttering, but perceive it as a mild condition. This may be attributed, for example, to mild emotional responses or to the lack of significant social difficulties (Yairi & Seery, 2011). This demonstrates that the experiential nature of stuttering (e.g.,

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Sheehan, 1970; Van Riper, 1982) cannot be represented sufficiently using only stuttering severity scales, such as the Stuttering Severity Instrument (SSI-IV; Riley, 2009) or the weighted Stuttering-Like Disfluency score (Yairi & Ambrose, 1999, 2005), and should be quantified using additional measures.

Yaruss and Quesal (2006) have developed an instrument, intended for assessing and quantifying various dimensions of the stuttering experience, in a single and more holistic instrument. This Overall Assessment of the Speaker's Experience of Stuttering (OASES) was designed to capture the impact of stuttering on the subjective experience of the individual who stutters, from different perspectives. This is a self-administered questionnaire, arranged into four sections, representing different dimensions of the stuttering experience. These include: (I) **General Information** – focuses on self-perception of speech fluency, general knowledge about stuttering and self-perception of speech and communication naturalness; (II) **Reactions to Stuttering** – focuses on the speaker's reaction to stuttering (emotional reaction, associated secondary symptoms and attitudes); (III) **Communication in Daily Situations** – focuses on the degree of difficulty in various communication situations (e.g., general situations, at work, during social interactions, at home); and (IV) **Quality of Life** – focuses on the extent to which stuttering affects quality of life (e.g., general quality-of-life, communication, interpersonal relationships, work and overall well-being). One of the aims of the present study was to examine whether the OASES-A maintains its psychometric properties across translation into Hebrew.

Various environmental and personal factors were shown to interact with the PWS's experience of stuttering. Environmental factors, include, for example, culture (Campbell, 2000; Simon, 2011; Zhang & Kalinowski, 2012), school or social settings (e.g., Abdalla & Al-Saddah, 2009; Blood & Blood, 2004; Langevin, Bortnick, Hammer, & Wiebe, 1998) and work setting (e.g., Hurst & Cooper, 1983; Rice & Kroll, 1994, 1997; Yaruss, 2010). Personal factors may include a wide range of characteristics. Apparently, the most commonly examined factors were temperament, personality trait and personal beliefs (e.g., Bleek et al., 2012; Guitar, 2006; Iverach et al., 2011; Karrass et al., 2006). Nonetheless, the potential effect of basic personal factors, such as age, gender and marital status on the individual's experience of stuttering have only been discussed limitedly.

Personal strategies for coping with stressors in life have been argued to change through the course of life. For example, older adults report fewer and different stressful situations than do younger adults (Aldwin, 1990; Aldwin, Sutton, Chiara, & Spiro, 1996; Paykel, 1983). This was suggested to result from a considerable amount of challenges faced in younger adulthood, such as developing a career, changing marital status; and to a lesser extent in older adulthood. Piazza, Charles, and Almeida (2007) reported that older adults exhibited higher levels of well-being compared to younger adults. Interestingly, they found similar levels of well-being, when comparing older and younger adults who are faced with multiple health problems. Specifically, it was reported that older people had higher prevalence of life-threatening health conditions (e.g., cancer, heart disease, diabetes), and yet they were less reactive to daily stressors than were their younger counterparts. The authors interpreted these findings as suggesting that older adults may have a greater psychosocial reserve capacity than younger adults.

In the field of stuttering, researchers such as Van Riper or Bloodstein have not directly addressed the impact of age on the experience of stuttering. Nonetheless, they did discuss the changing needs of the individual who stutters, from early childhood to adulthood, and the importance of applying appropriate treatment approaches during the different phases of life (Bloodstein, 1958; Van Riper, 1973). Yairi and Seery (2011) discussed the cumulative effect of stuttering over time, on the individual who stutters. They argued that "...it can be assumed that the great majority of afflicted school-age children have been stuttering for a good number of years and that adults have stuttered for many years. Naturally, the longer their stuttering history, the greater is their experience with the disorder" (p. 183). They also recognized age group differences among children and adults who stutter.

Current literature presents conflicting results on the potential effect of age on the experience of stuttering among adults. On the one hand, Koedoot, Versteegh, and Yaruss (2011) as well as Yaruss and Quesal (2010) reported no significant correlation between age and the subjective experience of PWS, using the OASES-A. In contrast, Blumgart, Tran, Yaruss, and Craig (2012) who also used the OASES-A in Australian adults, suggested that age and OASES-A impact scores were mildly (though statistically significant) correlated. Further support for the possible positive impact of age on the subjective self-perception of stuttering by PWS, as well as on their cognitive and emotional adjustment, was presented in several qualitative studies. Manning, Dailey, and Wallace (1984), for example, reported that the majority of older PWS viewed their stuttering as less debilitating at the time of the study, compared to the way it was at a younger age. This view was also supported more recently, by Klompas and Ross (2004) who reported that PWS consistently described their negative stuttering experience to lessen with age. Moreover, Bricker-Katz, Lincoln, and McCabe (2010), reported that older PWS adopt a more positive approach toward their speech, with enhanced self-esteem, compared to younger adults who stutter. Nonetheless, these studies were of a qualitative nature, where standardized instruments for quantifying these observations, did not apply. In addition, the studies of Manning et al. (1984) and Bricker-Katz et al., (2010) focused on older PWS, over the age of 52, and not on younger adults. In light of these reports, one of the aims of the present study was to examine the relationship between PWS's age and their experience of stuttering.

Gender is another basic personal factor, which could affect the experience of stuttering. In general, the literature suggests that men and women exhibit different coping styles, when facing potentially stressful events. For example, women were reported to rate their life events as more negative and less controllable than men (Matud, 2004). They also exhibited more emotional coping styles and avoidance behaviors than men, whereas men tended to exhibit an emotional inhibition coping style. Women were also reported to seek social support and use emotion-focused coping strategies, while men preferred a more problem-focused approach (Ptacek, Smith, & Dodge, 1994). These gender differences are also manifested in the perception of illness and while coping with medical conditions. For example, women with various health problems tend to perceive their condition more negatively than men. This was demonstrated, for example, among people with Osteoporosis (Edelstein et al., 2012), Parkinson's disease (Heller, Dogan, Schulz, & Reetz, 2014), Tinnitus (Seydel, Haupt, Olze, Szczepek, & Mazurek, 2013) and Allergic Rhinitis (Pesut et al., 2014).

In the field of stuttering, only a limited number of studies have examined gender differences in self-perception of the stuttering

experience. This may be attributed to the significantly higher incidence of men who stutter, compared to women (e.g., Bloodstein, 1995; Craig, Hancock, Tran, Craig, & Peters, 2002). In this context, some studies have dealt with the attitudes of listeners or the general public towards PWS, and failed to show gender differences (Patterson & Pring, 1991; St. Louis, 2012). Other studies focused on the attitudes of people who stutter themselves. Silverman and Zimmer (1979), for example, reported that women who stutter showed higher levels of self-esteem than the men who stutter, and were less likely to identify themselves as handicapped than men. These findings were further supported by Silverman (1980) and Silverman and Zimmer (1982). In contrast, Vanryckeghem and Brutten (2012) found no gender differences among PWS and people who do not stutter (PWNS) when examining communication attitudes using the BigCAT and the Erickson S-24 questionnaires. It should be noted that in children who stutter, gender differences in communication attitudes were not found (Vanryckeghem, Brutten, & Hernandez, 2005), and the meta-analytic review presented by Guttormsen, Kefalianos, & Ness, 2015).

More recent studies, in which the OASES-A was applied, reported no gender differences in the experience of stuttering, both in English (Blumgart et al., 2012) and Brazilian-Portuguese (Bragatto et al., 2012). Interestingly, both Yaruss and Quesal (2006) and Koedoot et al. (2011), who presented the OASES-A in English and Dutch, respectively, did not entertain the possibility of gender differences in that respect.

Among PWNS, attitudes towards communication were evaluated using a specific instrument, the Personal Report of Communication Apprehension (Pribyl, Keaten, Sakamoto, & Koshikawa, 1998). In that study, Japanese female students scored significantly higher than male students did in the public-speaking dimension. In another study, both American and Taiwanese women scored higher than men in measures of self-disclosure, willingness to communicate with others, self-perceived communication competence, and anxiety in public speaking (Hsu, 2007). Therefore, in the present study, we decided to include gender, as a potential factor that could influence the OASES-A impact scores.

To the best of our knowledge, the effect of marital status on the experience of stuttering has not been investigated directly in the past. Married individuals are reported to exhibit higher *general* life-satisfaction, compared to age-matched unmarried individuals (e.g., Israeli Central Bureau of Statistics, 2012; Han, Park, Kim, Kim, & Park, 2014). Married people were also found to obtain higher scores on quality-of-life measures, when facing severe illnesses (e.g., Goldzweig et al., 2009; Parker, Baile, Moor, & Cohen, 2003). Therefore, we decided to include marital status, as a potential factor for influencing the experience of stuttering.

In light of the conflicting or scarce data on the association between basic personal characteristics and the experience of stuttering; the aim of our study was to explore the association between the experience of stuttering, as quantified by the OASES-A, and age, gender and marital status. Because the OASES-A was not adapted to Hebrew prior to this study, we also aimed to evaluate the psychometric properties of the Hebrew version of the OASES-A.

2. Method

As a preparatory step, we translated and adapted the original version of the OASES-A to Hebrew. This process is described in the following section.

2.1. Translation and adaptation of the OASES-A to Hebrew

As noted above, the OASES-A (Yaruss & Quesal, 2006, 2010) consists of 100 items arranged into four sections. Responses to each item are rated on a 5-point Likert scale, in which higher scores indicate a more negative impact of stuttering. Responses are first totaled into raw scores, and then converted into overall impact ratings (mild–moderate–severe). Previous studies have provided support for the reliability and validity of the original English version (Yaruss & Quesal, 2006), as well as for equivalent translated versions.

For the purpose of this study, a forward and backward translation was conducted, following the scheme presented in similar reports. This procedure was previously used for translating different self-report questionnaires in the field of speech pathology. These include, for example, the Hebrew version of the VHI (Amir et al., 2006), the Persian version of the SSI-3 (Bakhtiar, Seifpanahi, Ansari, Ghanadzade, & Packman, 2010), the Turkish version of the POSHA-S (Maviş, St. Louis, Özdemir, & Toğram, 2013) and the Dutch version of the OASES-A (Koedoot et al., 2011).

The original OASES-A was translated into Hebrew by three native speakers of Hebrew, who were also highly proficient in English. The three resulting Hebrew versions were, then, translated back into English by three native speakers of English, who were also highly proficient in Hebrew. All translations were compared, item-by-item, to identify the versions that maintained accuracy and coherence through the translation process. The assembled translated version was then examined by two SLPs who specialize in stuttering, to ensure that the resulting Hebrew version is comparable and in agreement with the original English version. An expert linguist examined the final version, to ensure it is clear and grammatically appropriate. During this process we learned that one item, “ordering food at a drive-thru” (section III, item #70), could not be adapted appropriately to Hebrew, because “drive-thrus” are not common in Israel. Hence, this item was replaced with “ordering food on the phone”, which was suggested as similar in function, significance, and impact to Hebrew speaking PWS.

2.2. Participants

After receiving the approval of our institutional ethics committee, and a written and oral consent from all participants, a total of 91 adults who stutter volunteered to participate in this study. Table 1 summarizes demographic information on the participants,

Table 1

Demographic characteristics of the participants, including gender, age, educational level, marital status and occupational status.

	N (%)
Gender	
Male	64 (70.32%)
Female	27 (29.68%)
Age (years)	
Mean	33.69
SD	11.77
Range	19–62
Educational level	
High-school	7 (7.69%)
University	48 (52.74%)
Other	15 (16.48%)
Unknown	21 (23.07%)
Marital status	
Single/divorced	49 (53.84%)
Married	42 (46.15%)
Occupational status	
Paid work	64 (70.32%)
Student	17 (18.68%)
Other	10 (10.98%)

including gender, age, educational level, marital status and occupational status. Within our cohort, 31 men were married, and 33 were unmarried; and of the 27 women, 11 were married and 16 were unmarried. It should be noted that the unmarried participants' group included four divorced individuals (three men and one woman). A preliminary examination of the data revealed no statistically significant difference between the results obtained from the divorced participants, in comparison with those of the single participants ($p = 0.474$). Therefore, the four divorced individuals were included in the unmarried group for all further analyses.

To be included in the study, all participants reported to be: (a) a person-who-stutters, (b) over the age of 18 years, (c) residing in Israel over the past 15 years, and (d) proficient in both spoken and written Hebrew. Participants who reported additional speech impediments, other than stuttering, were excluded from the study. In addition, participants with reported physical, neurological or psychiatric disorders were excluded.

2.3. Data collection

Participants were recruited either by contacting speech therapists, by an advertisement on an internet forum directed for SLPs, by an advertisement on a major social media forum aimed for PWS, or through the Israeli Stuttering Association (AMBI).

After completing and signing the consent form, all 91 participants completed a personal anamnesis form. All participants completed the Hebrew version of the OASES-A manually. Participants who were currently in speech therapy were handed all forms by their SLPs, who returned the completed forms to the researchers. Alternatively, participants who were not currently in therapy, received the forms with a pre-paid stamped envelope, and then returned the completed forms by mail.

As a means for examining concurrent validity of the translated OASES-A, a subset of 43 participants also completed three additional scales, in addition to the anamnesis questionnaire and the OASES-A. These tools included: (a) Perceived Stuttering Severity (PSS) 10-point self-rating scale, (b) Situation Avoidance Behavior Checklist (SABC; Cooper, 1976), (c) The Students Life Satisfaction scale (SLSS; Huebner, 1991a). A brief description of these tools follows. These tools were presented to the participants in a random order.

2.4. Additional research tools

2.4.1. Perceived Stuttering Severity (PSS) rating scale

To provide a general assessment of individual self-perception of stuttering severity, participants rated their stuttering severity, on a 10-point scale. On this scale, 1 represents 'Fluent speech', whereas 10 represents 'Very severe stuttering'. This scale was included in accordance with stuttering definitions, such as Perkin's, for example, who emphasized the importance of the internal overall sensation/perception of the PWS, as a measure of stuttering severity (Perkins, 1983, 1984). As noted above, similar scales for self-evaluation of stuttering were commonly used in previous studies (e.g., Koedoot et al., 2011; O'Brian, Packman, & Onslow, 2004; Adriaensens, Beyers, & Struyf, 2015), and are also widely used for clinical purposes (Blomgren, Roy, Callister, & Merrill, 2005; Iverach et al., 2009; Kelman & Nicholas, 2008; O'Brian, Onslow, Cream, & Packman, 2003; O'Brian et al., 2004; Onslow, Packman, & Harrison, 2003).

2.4.2. Situation Avoidance Behavior Checklist (SABC)

The Situation Avoidance Behavior Checklist (SABC) was originally presented by Cooper (1976), as a measure for assessing the level of avoidance exhibited by PWS in different speech situations. Its reliability was then re-confirmed more recently (Strouse, 2007). It consists of 50 items, listing a variety of interpersonal communication situations (e.g., ordering food at a restaurant, speaking on the telephone). Each item is rated on a 5-point scale, in which higher scores represent avoidance. Final individual score is derived by computing the overall average of all items. In the present study, the Hebrew version of this questionnaire (Madnick, 2006) was used. Avoidance is an important components of the experience of stuttering (e.g., Bloodstein, 1995; Riley et al., 2004; Van Riper, 1982; Yairi & Seery, 2011); and as such, the OASES-A (Section II) includes items addressing avoidance behaviors. Therefore, the SABC was taken as a means for evaluating the validity of the Hebrew version of the OASES-A.

2.4.3. The Students Life Satisfaction Scale (SLSS)

This questionnaire was originally presented by Huebner (1991a), and then used extensively, as a brief measure of general life satisfaction (e.g., Ash & Huebner, 2001; Gilman & Huebner, 2006; Huebner, 1991b; Huebner, Drane, & Valois, 2000; Suldo & Huebner, 2004; Zullig, Valois, Huebner, Oeltmann, & Drane, 2001). This instrument does not target specific life domains. Instead, it quantifies overall life satisfaction. The questionnaire's unidimensional structure was confirmed using exploratory and confirmatory factor analyses (Huebner, 1991b, 1995). The Hebrew version of the SLSS was presented in 2009 (Sagi, Ezer, Gilat, & Reuveni, 2009). It includes seven items, which are rated on a 4-point scale, where higher scores represent better life satisfaction. Individual scores are computed as the overall average, after reversing the scores of negatively keyed items.

2.5. Statistical analyses

We report descriptive statistics: mean, median, standard deviation, skewness, and kurtosis. Departure of items' distribution from normality was assessed using the Shapiro-Wilk Test (Shapiro & Wilk, 1965). Unidimensionality is considered a necessary pre-requisite for calculating reliability (Miller, 1995). It refers to a set of items measuring a single latent construct, and it was estimated for each OASES-A section using exploratory component analysis, in which the items pertaining to one section were expected to load highly on one factor, while having low loadings on other factors. Reliability of our measures was calculated as internal consistency, using Cronbach's coefficient alpha (Cronbach, 1951). Internal consistency is defined as the extent to which each item of a scale is related to the same hypothetical construct. In general, Cronbach's alpha of 0.70 and higher is considered acceptable for newly developed measures (Nunnally, 1978). Validity of the OASES-A impact scores was measured using their correlations with each other and with other constructs. Structural validity was operationalized in our analyses as convergent validity. Cohen (1992) asserted that correlations of 0.30–0.50 are considered medium to large, while correlations above 0.50 are considered large to very large.

3. Results

3.1. The Hebrew version of the OASES-A

First, we tested the distribution of the participants' responses to the OASES-A items. Mean value for each item ranged from 1.42 to 3.54, with the median value of 2.5 (i.e., below the scale midpoint). Standard deviations ranged from 0.70 to 1.49, with a median of 1.13. Values of all items but one ranged from 1 to 5. The only item that presented a smaller distribution was the first question ("How often are you able to speak fluently?"), with responses ranging from 1 to 4. Eighty-seven items were positively skewed, and for 53 of them, the skewness was statistically significant ($p < 0.05$). For 73 items, the value of kurtosis was negative, where 16 of these were significant ($p < 0.05$). For the remaining 27 items, the value of kurtosis was positive, and significant in twelve cases. Accordingly, the Shapiro-Wilk Test for Normality of Distribution yielded significant results for all items (all p 's < 0.0001). In conclusion, most items of the Hebrew version of the OASES-A deviated somewhat from normal distribution. Nevertheless, responses exhibited acceptable variability and were thus capable of distinguishing between respondents.

Following, we tested the unidimensionality of each OASES-A domain. This was deemed necessary, for estimating structural validity and for calculating reliability. An exploratory component analysis was used (Principal Components method), yielding four components with Eigenvalues greater than unity for section I (*General Information*), seven for section II (*Reactions to Stuttering*), four for section III (*Communication in Daily Situations*), and three for section IV (*Quality of Life*). It should be noted that, in each of these analyses, the first component was markedly dominant over the following ones, with Eigenvalues of 6.71, 11.76, 12.69, and 15.40, respectively. All items were highly loaded (over 0.35) on the first factor in each section. Therefore, it is concluded that within each of the four sections, all items may be taken to measure, to a considerable degree, the same content.

3.1.1. Reliability

Internal consistency for each section of the OASES-A were calculated using Cronbach's alpha coefficients. The results are presented in Table 2. As shown, for all four sections, Cronbach's alpha coefficients were greater than 0.85. Cronbach's alpha coefficients for all subsections within the four sections, ranged between 0.82 and 0.96.

3.1.2. Validity

Inter-correlations of the four sections were computed using the mean scores of their constituent items as a measure of structural validity. Table 2 shows that the intercorrelations were high, ranging between 0.54 and 0.82. This demonstrated that, while each

Table 2Distribution, Cronbach α and intercorrelations between the impact scores of the OASES-A sections ($N = 91$).

OASES Section	Mean	SD	Cronbach's alpha	Intercorrelations*		
				I	II	III
I. General information	2.72	0.61	0.89	—		
II. Reactions to stuttering	2.63	0.72	0.94	0.61	—	
III. Communication in daily situations	2.31	0.76	0.96	0.54	0.75	—
IV. Quality of life	2.22	0.91	0.97	0.54	0.82	0.80
Total	2.47	0.75				

*All intercorrelation coefficients significant at $p < 0.001$.

section represents a different content, the four sections were not completely unrelated.

Mean impact scores of the OASES-A, as well as Cronbach's alphas and intercorrelations values are presented in Table 2. As shown, mean overall impact score within our cohort was 2.47, whereas the mean scores for the four sections of the questionnaire ranged between 2.22 to 2.72.

Prior to examining the concurrent validity of the Hebrew version of the OASES-A, mean scores for each of the three additional instruments were calculated. Mean score for the PSS scale was 4.14 (SD = 1.82), mean score for the SABC was 2.11 (SD = 1.23), and mean score for the SLSS was 2.76 (SD = 0.89). Then, Pearson correlation tests were performed to assess the relationships between the four sections of the OASES-A and the additional instruments. Table 3 presents these correlations.

Statistically significant correlations were found between the scores of the three instruments and the four sections of the OASES-A. This demonstrates the concurrent validity of the Hebrew version of the OASES-A scores in our sample. These data are reminiscent of the Koedoot et al. (2011) study, who presented the Dutch version of the OASES-A, and reported a correlation between the OASES-A impact scores and three additional measures. In that study, these correlations ranged between 0.58 to 0.85 for the S-24; between −0.51 to −0.61 for a self-assessment scale; and between 0.36 to 0.59 for a clinician's assessment scale.

3.2. Relationship between the experience of stuttering and age, gender and marital status

Pearson correlation tests were performed to assess the relationship between the impact scores of the four sections and the participants' age. As shown in Table 4, significant negative moderate correlation were found between three of the OASES-A sections and Age (sections II, III and IV). This implies that older PWS exhibited lower scored on these sections, compared to younger PWS. Fig. 1 illustrates the significant negative correlation between the participants' age and their total OASES-A impact scores.

Point-biserial correlation tests were performed between the impact scores of the four sections and participants' gender and marital status. As shown in Table 4, no statistically significant correlations were found between the participants' OASES-A- impact scores and their gender.

Significant negative weak to moderate correlations were found between scores on sections II, III and IV and participants' marital status, suggesting that married PWS exhibited lower scores on these sections, compared to unmarried PWS. This result illustrated in Fig. 2.

3.3. Comparison of the Hebrew OASES-A values to those obtained in other languages

Finally, a preliminary attempt was carried out to place our findings in the context of previous studies that examined the OASES-A in other languages. To that end, a comparison was made between the current results and those obtained in North America (Yaruss & Quesal, 2010), the Netherlands (Koedoot et al., 2011), Brazil (Bragatto et al., 2012) and Australia (Blumgart et al., 2012). This comparison is summarized in the Appendix A. In general, similar impact scores were observed in all languages. A comparison of these studies demonstrates that overall impact scores of the OASES-A range between 2.44 to 2.76, with standard deviations ranging from 0.52 to 0.75. Statistical analyses of the comparisons between the Hebrew version and each of the other versions, using independent samples *t*-tests, revealed a significant difference mostly with the Australian study, with *insignificant* differences in**Table 3**Correlations between the participants' scores on the four sections of the OASES-A and their scores on the additional instruments ($N = 43$).
** $p < 0.001$.

OASES-A Section	PSS	SABC-H	SLSS-H
I. General information	0.61**	0.30*	−0.56**
II. Reactions to stuttering	0.80**	0.51**	−0.63**
III. Communication in daily situations	0.90**	0.59**	−0.54**
IV. Quality of life	0.85**	0.59**	−0.67**

* $p < 0.05$.** $p < 0.001$.

Table 4

Correlations between OASES-A section scores and demographic characteristics (N = 43).

** $p < 0.01$.*** $p < 0.001$.

OASES-A Section	Age	Gender	Marital status
I. General Information	-0.14	-0.10	-0.14
II. Reactions to stuttering	-0.35***	-0.11	-0.27*
III. Communication in daily situations	-0.33**	-0.08	-0.37***
IV. Quality of life	-0.34**	0.00	-0.25*

* $p < 0.05$.** $p < 0.01$.*** $p < 0.001$.

comparison with the other studies. In all cases, the nominal differences between the values reported in the studies were small in magnitude. As shown, these inter-study differences were approximately three times *smaller* than the standard deviations.

4. Discussion

The primary purpose of this study was to examine the association between three basic personal characteristics: age, gender and marital status, and the experience of stuttering, using the Hebrew version of the OASES-A. The reliability of the Hebrew OASES-A was demonstrated by the high internal consistency of all four sections, and by the moderate to strong inter-correlation values between the sections (see Table 2). Concurrent validity was evaluated by calculating correlations between the Hebrew OASES-A scores and three additional instruments: (a) Perceived Stuttering Severity (PSS) Scale, (b) Situation Avoidance Behavior Checklist (SABC; Cooper, 1976), and (c) The Students Life Satisfaction Scale (SLSS; Huebner, 1991a) (see Table 3). On the whole, strong correlations were found between the scores on the Hebrew version of the OASES-A and these tools. Consequently, it was concluded, that the Hebrew version of the OASES-A is a reliable and valid tool. This finding is in line with previous studies that demonstrated that the OASES-A maintains its psychometric properties across translation and adaptation to different languages.

Next, we assessed the relationship between the OASES-A impact scores and participants' age, gender and marital status. Results indicated that, for the most part, older PWS exhibited lower impact scores on the OASES-A. This finding supports previous reports (e.g., Blumgart et al., 2012; Bricker-Katz et al., 2010; Klompas & Ross, 2004; Manning et al., 1984), and implies that as speakers mature and get older, the impact of stuttering on their subjective overall experience lessens. This may be explained by the possibility that after years of stuttering, PWS adapt better to the stuttering, either by gradually modifying attitudes and beliefs or due to improved familiarity with speech techniques. This adaptation could be attributed to speech therapy, self-help groups, life experience, individual growth, personal search for help, or other factors. The gradual decrease in OASES-A impact scores among older PWS, may also reflect a general change in the personal perspective on the disorder. As suggested, for example, by Aldwin (1990), older adults

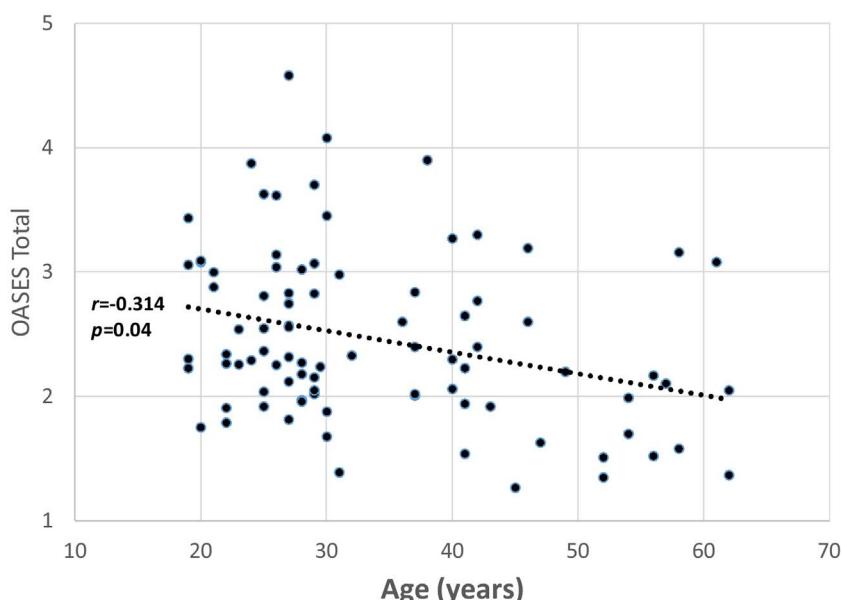


Fig. 1. Scatterplot of the correlation between the participants' age and their total OASES-A impact scores.

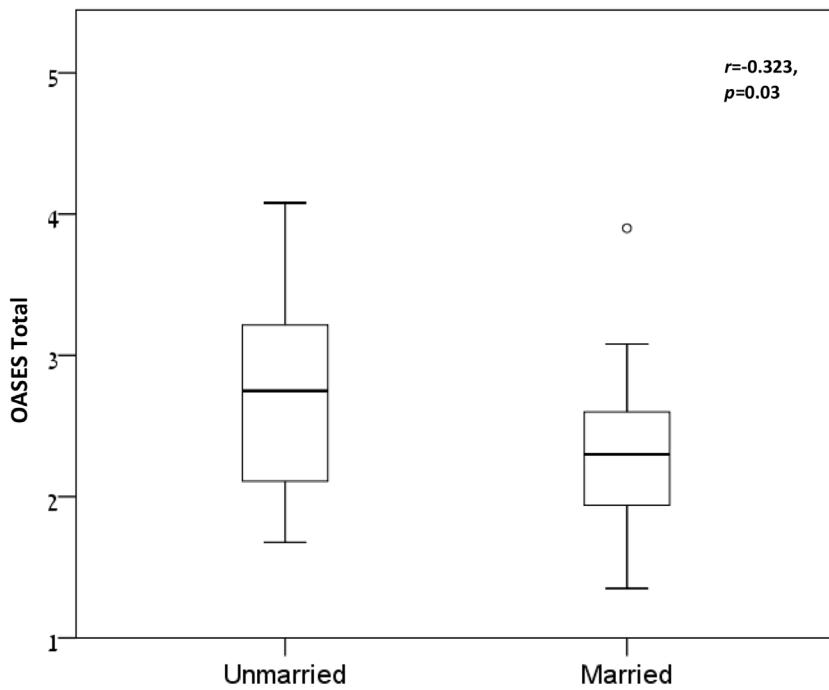


Fig. 2. Boxplot of the distribution of the OASES-A total impact scores, obtained for married and unmarried participants.

typically view themselves as having achieved important milestones, such as graduating school or college, having a family, bearing children or establishing a career, compared to younger adults. It is, therefore, possible that older PWS place less emphasis on stuttering at this phase, and therefore view stuttering as less threatening. Moreover, it is also possible that as an individual-who-stutter ages, listeners' reaction to his/her stuttering may also change. Consequently, older PWS may experience their stuttering more mildly, and exhibit lower scores on the OASES-A.

In contrast with the observed effect of age, our data did not reveal a significant association between gender and OASES-A impact scores. This implies that men and women responded similarly on the four sections of the questionnaire, regardless of their gender. On the one hand, this result supports preliminary reports from Australia (Blumgart et al., 2012) and Brazil (Bragatto et al., 2012). Nonetheless, the lack of gender differences in the subjective experience of stuttering contradicts reported gender differences in general coping styles (e.g., Matud, 2004; Ptacek et al., 1994). It also contradicts earlier reports on stuttering, in which it was suggested that women who stutter show more positive attitudes towards stuttering, compared to men who stutter (Silverman & Zimmer, 1979, 1982; Silverman, 1980). Therefore, our finding, of no significant gender differences in OASES-A impact scores, may have two alternative explanations. On the one hand, it may suggest that, indeed, men and women experience stuttering similarly, and that general gender differences do not affect it. On the other hand, it is possible that gender differences in the personal experience of stuttering may exist, but these differences are not captured by the OASES-A impact scores. In other words, the OASES-A may not be sensitive to gender differences. Because our data does not provide a definite answer to resolve this discussion, and in light of the methodological limitations of the present study, future research may address it more directly.

The possibility that marital status may affect the subjective experience of stuttering was not entertained by previous studies, nor was the possibility that OASES-A impact scores may reflect such a difference. Nonetheless, studies from different fields have suggested that married individuals report higher general life satisfaction, and better quality-of-life (e.g., Goldzweig et al., 2009; Han et al., 2014; Parker et al., 2003). In light of these reports, we decided to consider the possibility that married PWS may experience stuttering differently than unmarried PWS, and that this may be reflected in their OASES-A impact scores. Our data revealed significant, weak-to-moderate correlations between the PWS's marital status and their scores on sections II–IV of the OASES-A. This implies that, within our study, married PWS exhibited lower impact scores (i.e., a less negative experience of stuttering), compared to unmarried PWS. Because the present study is the first to report on this relationship, we cannot evaluate this finding in light of previous reports. Nonetheless, as noted above, this observation is in agreement with other reports on higher general life-satisfaction among married individuals, compared to unmarried individuals. Therefore, we suggest that this result, that we observed among stuttering adults, may be a reflection of the general tendency of better quality of life among married individuals. Within the context of our results, it should be noted that lower OASES-A impact scores were found both in older PWS and in married PWS. Clearly, these findings may be related, as older adults are more likely to be married than younger adults. Because of the preliminary nature of this study, and the limited number of participants within each subgroup, we did not explore this interaction directly. Future research, in which PWS's age, marital status, and preferably also gender are considered, could shed more light on this finding, and on the potential interaction between these factors.

It should be noted that many of our participants were individuals who were either undergoing therapy, or affiliated a local self-

help group. Admittedly, these individuals may differ from other PWS, who do not seek therapy or attend such activities. This fact may have impacted our results to some degree, and should be considered in future research.

Finally, we conducted a preliminary comparison between the current results and those of other studies that examined the psychometric properties of the OASES-A in other countries and languages (USA, the Netherlands, Brazil and Australia). As demonstrated in the [Appendix A](#), similar impact scores were obtained in all studies, with mean overall scores ranging between 2.44 to 2.76. Albeit small sectional differences were found between the studies; all mean impact scores (with only two marginal exceptions) ranged between 2.25 to 2.99, which is defined as a ‘moderate’ impact rate. Moreover, the minor inter-study differences were approximately three times *smaller* than the standard deviations, and were statistically *insignificant* in most cases. Therefore, it is concluded that these small inter-study differences have no clinical significance, and data from these studies may be viewed as comparable.

5. Conclusion

This study examined the association between basic three personal characteristics: age, gender and marital status, and the experience of stuttering, as quantified by the OASES-A. PWS’s responses on the Hebrew OASES-A were shown to be associated with their *age* and *marital status*, but not by their *gender*. This finding may suggest clinical implications. It is possible that younger unmarried individuals who stutter may experience their stuttering differently from older and married ones. This should be considered during therapy, as it may affect therapeutic goals and the appropriate strategies applied during therapy. This study has also demonstrated the reliability and validity of the Hebrew version of the OASES-A, and it is concluded that it may be used for future clinical and research purposes.

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Appendix A

OASES-A mean impact scores obtained in the present study, compared to results from previous studies conducted in different languages and countries, using the updated scoring system ([Yaruss & Quesal, 2010](#)).

OASES-A sections	Hebrew	English-USA ¹	Dutch ²	Portuguese ³	English-Australia ⁴
	N = 91	N = 173	N = 138	N = 18	N = 200
1. General information	2.72 (0.61)	2.67 (0.69)	2.84 (0.52)	2.77 (0.58)	2.60 (0.61)
2. Reactions to stuttering	2.63 (0.72)	2.75 (0.81)	2.61 (0.63)	2.93* (0.55)	2.91*** (0.72)
3. Communication in daily situations	2.31 (0.76)	2.66*** (0.77)	2.32 (0.59)	2.78** (0.62)	2.58** (0.69)
4. Quality of life	2.22 (0.91)	2.39 (0.89)	2.00* (0.66)	2.53 (0.96)	2.49* (0.89)
Overall	2.47 (0.75)	2.60 (0.74)	2.44 (0.52)	2.76 (0.57)	2.66* (0.65)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

¹[Yaruss and Quesal \(2010\)](#).

²[Koedoot et al. \(2011\)](#).

³[Bragatto et al. \(2012\)](#).

⁴[Blumgart et al. \(2012\)](#).

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