Purpose: In this study, the author examined the relationship of social support, empowerment, self-help support group participation, and group identification to quality of life in adults who stutter.

Method: Two-hundred forty-nine adults who stutter completed a web-based survey, including measures of social support, empowerment, self-help support group participation, group identification, and quality of life.

Results: After controlling for demographic and stuttering parameters, both empowerment in the self-esteem/self-efficacy domain and social support from family significantly predicted quality of life in adults in the sample.

Conclusions: Increased self-esteem/self-efficacy and social support from family relates to improved quality of life in adults who stutter, independent of stuttering severity. Treatments that increase feelings of self-esteem/self-efficacy and strengthen social support from the family should be considered for individuals who struggle to cope with stuttering in order to enhance their quality of life.

People who stutter (PWS) experience many psychosocial stresses, including feelings of stigma and shame (Boyle, 2013a; Butler, 2013; Ginsberg, 2000; Plexico, Manning, & Levitt, 2009), state and trait anxiety (Craig & Tran, 2014; Iverach & R apee, 2014), and negative affect (Blumgart, Tran, & Craig, 2014; Iverach et al., 2010; Tran, Blumgart, & Craig, 2011) because of their stuttering. Behavioral consequences of stuttering include reduced educational participation and achievement (Daniels, Gabel, & Hughes, 2012; O’Brian, Jones, Packman, Menzies, & Onslow, 2011), work limitations (Bricker-Katz, Lincoln, & Cumming, 2013; McAllister, Collier, & Shepstone, 2012), and withdrawal from social interaction in general (Bricker-Katz, Lincoln, & McCabe, 2009; Klompass & Ross, 2004). These behaviors can have the effect of increasing isolation and reducing quality of life in PWS (Craig, Blumgart, & Tran, 2009; Klompass & Ross, 2004; Koedoot, Bouwmans, Franken, & Stolk, 2011).

A major goal of speech-language pathologists (SLPs) is to reduce activity limitations, participation restrictions, and barriers created by contextual factors that negatively impact clients’ quality of life (American Speech-Language-Hearing Association, 2007). Quality of life refers to people’s evaluation of their own enjoyment and satisfaction in their ability to function across multiple life domains, including work, relationships, mood, and leisure time (Endicott, Nee, Harrison, & Blumenthal, 1993). Craig (2010) stated that a quality of life measure “attempts to assess the wellbeing of a person from a multidimensional perspective, including physical, psychological, social, and vocational aspects” (p. 159). The importance of assessing and monitoring quality of life as a treatment outcome has become increasingly emphasized in the clinical management of fluency disorders (Craig et al., 2009; Franic & Bothe, 2008; Yaruss, 2010) and in many other areas of SLP, including aphasia (Cruice, Worrall, & Hickson, 2010), hearing loss (Fellinger et al., 2005), voice disorders (Baylor, Yorkston, & Eadie, 2005), and language disorders (Arkkila et al., 2011).

Psychosocial Variables Relevant to Quality of Life

There are likely many factors related to the quality of life and wellbeing of individuals who stutter. It is important to identify those factors in order to protect and improve the psychosocial health and functioning of these individuals (Craig, Blumgart, & Tran, 2011). This study focuses on four specific psychosocial variables that are suspected to buffer negative consequences of stuttering and improve quality of life in PWS: social support, empowerment, self-help...
support group (SHSG) participation, and group identification. Although there may be a wide variety of variables related to quality of life, this study specifically focused on variables that in some way measure aspects of the social domain. The social component of stuttering is important yet often overlooked in stuttering research (Yaruss, 2010). The four psychosocial variables measured in this study and their rationale for inclusion are described in detail in the following sections.

Social support. The term social support has been previously defined as “an exchange of resources between at least two individuals perceived by the provider or recipient to be intended to enhance the well-being of the recipient” (Shumaker & Brownell, 1984, p. 13). It has long been hypothesized that social support acts as a buffer that protects individuals from the negative consequences of stress (Dahlem, Zimet, & Walker, 1991). Brausch and Decker (2014) analyzed risk factors for suicidal ideation among a community sample of 392 adolescents. The Child and Adolescent Social Support Scale (Malecki, Demaray, & Elliott, 2000) was used to assess social support from parents, teachers, classmates, close friends, and school. Results indicated that higher levels of parent support and peer support were significantly related to less suicidal ideation. Lindfors, Ojanen, Jääskeläinen, and Knekt (2014) examined whether social support was predictive of therapy outcomes for 326 outpatients seeking psychiatric services for anxiety and depression. Participants were given the Brief Inventory of Social Support and Integration, developed by the authors of that study (Lindfors et al., 2014), as a baseline measure before short- or long-term therapy. Results demonstrated that higher levels of social support prior to entering treatment were predictive of reduced anxiety and depression at a 3-year follow-up after long-term treatment.

Although these studies on social support reviewed above do not involve PWS, it would be expected that the benefits of social support would carry over to PWS for several reasons. Although no empirical studies have addressed suicide in PWS, there is strong evidence recorded from writings of PWS that suicidal thoughts can and do occur in many of these individuals, and in fact, some have died by suicide (Kuster et al., 2013). Individuals who stutter also frequently experience anxiety due to stuttering. A recent literature review of social anxiety in PWS by Iverach and Crean (2014) concludes, “a growing body of research has demonstrated an alarmingly high rate of social anxiety disorder among adults who stutter” (p. 69). Some recent studies have investigated social support among PWS. Craig and associates (2011) categorized a sample of 200 PWS in terms of being resilient and nonresilient according to global psychopathology scores on the Symptom Checklist–Revised (SCL–90 R; Derogatis, 1994). The results demonstrated that self-efficacy, social support, and social functioning all contributed uniquely to predicting psychological health in the form of resilience. Unfortunately, a recent study by Blumgart and colleagues (2014) found that PWS (n = 200) reported lower levels of social performance and social support on the Significant Others Scale (Power, Champion, & Aris, 1988) compared to individuals who do not stutter (n = 200). That same study found that PWS with lower social support experienced significantly higher levels of negative affect. Based on this research, it would be expected that social support could be related to quality of life in individuals who stutter although this link has not been investigated to date.

Empowerment. The construct of empowerment has been defined as a process of “gaining control over one’s life and influencing the organizational and societal structure in which one lives” (Segal, Silverman, & Temkin, 1995, p. 215). It is a multidimensional construct that includes psychological, social, and political components (Rogers, Ralph, & Salzer, 2010). It can be thought of as gaining power to control one’s environment. Segal and colleagues (1995) proposed that this sense of power could come from one’s own sense of personal self-esteem and self-efficacy but also through collective action with other group members. Attainment of empowerment therefore comes from an active participation in community and organizational activities. Livingston and Boyd (2010) reviewed data from 45 articles measuring self-stigma and a variety of other psychosocial variables in individuals with mental illness. They found that empowerment was significantly and negatively related to self-stigma (large effect size). Rogers, Chamberlin, Ellison, and Crean (1997) developed the Empowerment Scale to analyze empowerment with 271 participants in self-help groups for mental illness across the United States. Significant positive correlations were found between empowerment and quality of life (medium effect size). Rüsch, Lieb, Bohus, and Corrigan (2006) administered the Empowerment Scale and other psychological tests to 90 women with a diagnosis of either borderline personality disorder or social phobia. It was reported that scores on the Empowerment Scale were significantly negatively related to depression (small effect size). Vauth, Kleim, Wirtz, and Corrigan (2007) measured constructs of empowerment (using the Empowerment Scale), quality of life, and depression in 172 outpatients diagnosed with schizophrenia. Empowerment was found to have a significant positive association with quality of life (large effect size) and a negative correlation with depression (medium effect size).

Again, although these studies have been conducted with populations of individuals with mental illness, it could be the case that empowerment could have similar psychological benefits with PWS (e.g., improved quality of life). Although the construct of empowerment has not been explicitly investigated quantitatively in PWS to date, the previously cited study by Craig and colleagues (2011) found that self-efficacy has been found to be a predictor of psychological resilience in PWS. Qualitative research, however, has consistently shown that many PWS can feel isolated, stigmatized, and powerless because of their stuttering. For example, a recent qualitative study by Butler (2013) included focus groups and semistructured interviews of 38 adults who stutter (ranging from 19 to 90 years of age). Using a grounded theory data analysis approach, Butler concluded that many PWS feel stigmatized because of their stuttering.
and, as a result, engage in a variety of thoughts and behaviors to distance themselves from their stuttering, including avoidance of speaking and hiding their identity as a PWS. Similarly, Plexico and colleagues (2009) interviewed nine adults who stutter (between the ages of 19 and 63 years old) using a grounded theory approach to analyze coping responses. The authors of that study found that PWS experience negative emotions, such as fear, shame, and embarrassment, due to their stuttering. As a consequence, one of the primary themes to emerge in the analysis was the issue of “protecting both the speaker and the listener from experiencing discomfort associated with stuttering” (p. 87). From these data, it seems that stuttering can lead to a reduction in personal empowerment and the desire to hide from other people and social situations. Empowerment, then, would seem to be a valuable construct to assess in regards to quality of life.

SHSG participation. SHSGs for PWS have long been recognized by clinicians and researchers in the area of stuttering as a valuable means for improving psychosocial health and functioning (Ramig, 1993; Reeves, 2007; Trichon & Tetnowski, 2011; Yaruss, Quesal, & Reeves, 2007). These groups are usually run by PWS for PWS with the intent that group members can share experiences, learn from others, receive emotional support, and also encourage and help their peers. Yaruss and colleagues (2002) surveyed 71 PWS who attended an annual convention of the National Stuttering Association (NSA) to better understand perceptions of these individuals. It was shown that approximately 94% of the sample reported that participation in an NSA support group positively affected their self-image and their acceptance as a PWS. Only 6% of the sample reported that NSA participation had no effect, but no participants indicated that it had a negative effect. Recently, Boyle (2013b) compared 175 PWS with SHSG experience with 104 PWS reporting no history of SHSG involvement on self-stigma, using the Self-Stigma of Stuttering Scale (Boyle, 2013a) along with a variety of other measures. Results showed that PWS with a history of SHSG participation reported significantly lower levels of stigma application (i.e., applying stigmatizing thoughts to themselves personally) than PWS with no SHSG involvement. That study also examined if the SHSG participants differed from nonparticipants in self-esteem, self-efficacy, and life satisfaction, according to the reasons why they joined and participated in the groups. It was found that SHSG participants who stutter reporting that they joined the groups to help other people demonstrated significantly higher levels of self-esteem, self-efficacy, and life satisfaction than PWS with no SHSG experience.

The findings of these studies indicate that SHSG participation for PWS improves self-image and acceptance of stuttering and that participation relates to reduced self-stigma. Furthermore, the specific group function of helping others in a group context seems to have positive implications for higher self-esteem, self-efficacy, and life satisfaction. Despite these findings, there are many aspects of SHSG participation that have not been investigated thoroughly, including level of participation, consistency of attending these groups, and years of participation in SHSGs. Specifically, these SHSG factors have not been investigated to date in relation to quality of life in PWS. Therefore, it was of interest in this study to investigate the relationships between these variables.

Group identification. In the field of social psychology, group identification has been described as “the degree to which individuals describe themselves as or feel attached to an ingroup” (Corrigan, Sokol, & Rüsch, 2013, p. 2). This construct refers to the idea that group membership can instill a sense of shared social identity with individuals with similar conditions, including stigmatized conditions. It would be expected that the more an individual with a stigmatized condition identifies with other members of that group, the more opportunities for social support would arise, including being able to give and receive help and support and increase resistance to stigma. Crabtree, Haslam, Postmes, and Haslam (2010) explored relationships between group identification, social support, stereotype rejection, and stigma resistance among 73 individuals with mental health problems. Results of that survey study demonstrated that increased group identification was significantly associated with higher external social support, stereotype rejection, and stigma resistance (medium effect sizes). Corrigan and colleagues (2013) examined relationships between group identification and quality of life, participation in mutual help programs, and participation satisfaction in those programs among 85 people with serious mental illness. The authors of that study reported that group identification was positively related to quality of life (small effect size), participation in mutual help programs (medium effect size), and satisfaction with those programs (large effect size).

Although the construct of group identification was described in terms of individuals with mental health problems in the studies cited above, it does appear to be relevant to measure in the population of PWS. Stuttering is certainly a stigmatized condition in our society, with many members of the public attributing negative personality characteristics to PWS (Craig, Tran, & Craig, 2003). Recent research has demonstrated that PWS not only are highly aware of negative perceptions from the public but also can internalize this stigma to the detriment of their self-esteem, self-efficacy, life satisfaction, and, ultimately, their societal participation (Boyle, 2013a). Group identification seems to be a relevant variable to measure in PWS, given the role it may have in increasing opportunities for social connections with other PWS and improving psychological well-being, yet this construct has not been investigated in PWS to date.

Purpose of the Current Study

It has been established that quality of life is an important variable for SLPs to consider in the clinical management of stuttering. Furthermore, it is known that PWS report reduced quality of life compared to individuals who do not stutter (Craig et al., 2009). However, research seeking to identify psychosocial predictors of quality of life in PWS is lacking (Blumgart et al., 2014; Craig et al., 2011). Identifying
discrete beliefs and behaviors in the social domain that contribute to quality of life may be an important step in developing specific interventions to increase psychosocial health and functioning in PWS. Craig et al. (2011) stated that protective factors (e.g., social support) could potentially mitigate the negative effects of stuttering severity. It was therefore the purpose of this study to evaluate the unique contributions of four variables that assess social factors—self-perceived social support, empowerment, level of participation in SHSGs, and group identification—to quality of life in adults who stutter after controlling for demographic and stuttering-related parameters. The social aspects of stuttering management are often overlooked clinically (Yaruss, 2010), and the variables measured in this study all involve significant social components that have not been investigated to date in relation to quality of life in PWS. It was hypothesized that increased self-perceived social support, empowerment, SHSG participation, and group identification would be predictive of higher quality of life, above and beyond demographic and stuttering-related variables.

Method

Participants

The data reported in this study come from 249 adults who stutter recruited from Board Certified Specialists in Fluency Disorders and adult chapters of the NSA in the United States. The age of the participants ranged from 18 to 84 years ($M = 40.22, SD = 15.76$). The majority of the participants were Caucasian (81%), and the remainder were 6% African American, 4% Asian American, 3% Hispanic American, and 6% reported other ethnicities. Only 5% of the sample reported no previous history in stuttering treatment; however, only 19% of the sample participants were currently receiving treatment. Most of the participants reported being involved in SHSGs at some point in their lives (81%). Of the individuals with SHSG experience, 66% reported that they were involved in the past 3 years, and 60% reported being currently involved. Of the participants reporting SHSG experience, the amount of time participating ranged from 2 months to 40 years ($M = 6.32$ $years, SD = 8.52$). Only 1.6% of the participants reported neither treatment nor SHSG experience.

Measures

Regarding demographic and stuttering-related parameters, participants reported their age, gender, previous treatment involvement, current treatment involvement, previous SHSG involvement, SHSG involvement in the past 3 years, current SHSG involvement, and self-rated stuttering severity. Self-rated stuttering severity was assessed using a unipolar 9-point Likert scale with ratings averaged across eight different speaking situations and higher scores indicating more severe physical stuttering. This scale has been used successfully as a reliable overall measure of stuttering severity in previous research (O’Brian et al., 2011; O’Brian, Packman, & Onslow, 2004). It was explained in the instructions of the scale that participants were to rate their typical stuttering severity in each situation. “Typical” was defined as the severity of stuttering for the majority of the day. Also, “stuttering severity” was defined for participants as “the disruption in your speech that you think is noticeable on the surface for the majority of the day. It does not refer to the impact of the disorder as a whole on your life.” These definitions were given to ensure that participants perceived the instructions similarly and to reduce any potential overlap between the self-rated stuttering severity measure and other psychological scales.

Self-rated quality of life was measured using the Quality of Life Enjoyment and Satisfaction Questionnaire-Short Form (Endicott et al., 1993). This scale intends to measure individuals’ subjective perceptions regarding the degree to which they are satisfied with their daily functioning in several domains of their daily lives during the past week (e.g., work, household activities, social and family relationships, ability to function in daily life, overall sense of well-being). The scale consists of 14 items that are summed for an overall score. Response options range from 1 (very poor) to 5 (very good), and possible scores range from 14 to 70. Higher scores represent higher quality of life. Internal consistency of the scale has been reported as excellent ($\alpha = .90$; Stevanovic, 2011).

Social support was measured using the Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988). This scale was designed to assess self-perceived social support from three sources: family, friends, and significant others. There are 12 items on the scale with response options from 1 (very strongly disagree) to 7 (very strongly agree). Item totals from each section are summed to provide an overall score of perceived social support. The possible range of scores is from 12 to 84 with higher scores representing higher perceived social support. This scale has demonstrated high internal consistency for each subcomponent ($\alpha$ ranging from .87 to .91; Tonsing, Zimet, & Tse, 2012).

Empowerment was measured using the Empowerment Scale (Rogers et al., 1997). Because empowerment is a multidimensional construct, this scale taps into self-esteem/self-efficacy, power/powerlessness, community activism, righteous anger, and optimism about the future. The scale consists of 28 items with response options ranging from 1 (strongly disagree) to 4 (strongly agree). Several items are reverse scored before averaging responses for all items, and higher scores represent more empowerment. The overall scale has been reported to have good internal consistency ($\alpha = .85$; Strack, Deal, & Schulenberg, 2007).

Level of SHSG participation was asked with the question, “How much do/did you participate in the support/self-help group that you went to?” and responses were given on a unipolar 9-point Likert scale (1 = no participation, 9 = very high participation). Consistency of SHSG attendance was addressed with the question, “How consistently have you attended the support group/self-help group?” with responses on a 1–9 scale (1 = not at all consistently,
9 = very consistently). Participants were also asked how many years they have been attending SHSGs for stuttering.

Group identification was evaluated using four questions adapted from Jetten, Spears, and Manstead (2001; e.g., “I feel strong ties to the group of people who stutter” and “I like to think of myself as a member of the stuttering community”). Response options ranged from 1 (strongly disagree) to 5 (strongly agree). Scores were averaged across the four items with higher scores representing higher levels of group identification. This scale has previously been used in research in social psychology and with individuals with mental illness, and it demonstrated good internal consistency (α = .85; Corrigan et al., 2013).

**Procedure**

Participants recruited from Board Certified Specialists in Fluency Disorders and adult chapters of the NSA completed a web-based survey containing the items described in the previous section. The survey was created using Qualtrics Survey Research Suite software. Approval for the study was obtained from the Institutional Review Board of Oklahoma State University and the National Stuttering Association Research Committee. The author sent e-mails to every Board Certified Specialist in Fluency Disorders in North America requesting them to forward the survey to any adult clients or acquaintances that they had. In addition, e-mails were sent to leaders of adult chapters of the NSA in the United States. A follow-up e-mail was sent 1 week after the initial e-mail as a reminder. Then, a final contact was sent 1 week after the second contact to all individuals who had not informed the author that they had forwarded the survey. Making multiple contacts to potential survey participants is one of the most effective ways to maximize response rate (Dillman, Smyth, & Christian, 2009). It was expressed in the study overview and implied consent form that participation in the study was completely voluntary and totally anonymous.

**Data Analysis**

Zero-order Pearson product–moment correlations were calculated to determine relationships between variables with Likert scale items. Point-biserial correlations were computed to examine relationships between dichotomous categorical variables and the outcome variables. Variables that were analyzed in this manner include gender (0 = female, 1 = male), previous treatment involvement, current treatment involvement, previous SHSG involvement, SHSG involvement in past 3 years, and current SHSG involvement (0 = no, 1 = yes). Any demographic or stuttering-related variables that were significantly correlated with any of the variables of interest were subsequently added as covariates in the regression analysis. Hierarchical regression was used because it is the optimal approach for examining the specific hypothesis of whether a certain block of variables accounts for unique variance in the outcome variable over and above that which can be predicted by other relevant variables (Petrocelli, 2003). In this case, it was of interest to determine whether the psychosocial variables of interest accounted for unique portions of variance in quality of life beyond the variance accounted for by demographic and stuttering-related variables, including self-rated stuttering severity (Craig et al., 2011).

**Results**

**Preliminary Analyses**

Preliminary item analysis was conducted for each previously established scale, and if scales purported to measure multidimensional constructs, item analysis was conducted on subscales. Table 1 shows alpha coefficients for each of the scales used in the study in addition to two example items from each scale or subscale to give a clear indication of what was being measured. It should be noted that the measures of quality of life and group identification were expected to be unidimensional, and alpha levels were good to excellent for these measures. Social support and empowerment are multidimensional constructs, and so these scales were separated into subscales. Alpha levels for each subscale of the Multidimensional Scale of Perceived Social Support were in the excellent range. The Empowerment Scale was broken up into its previously established subscales; however, only two of those subscales (self-esteem/self-efficacy and community activism) demonstrated internal consistency above .70, which Nunnally (1978) recommended as an acceptable cutoff for scales in the early stage of research. Therefore, due to questionable internal consistency, the subscales of perceived power, optimism about and control over the future, and righteous anger were not used in this study. It should also be noted that two items (Items 20 and 25) were removed from analysis in the “community activism” subscale of the Empowerment Scale due to alpha increasing after deletion of those items.

Descriptive statistics were calculated for all variables of interest (i.e., social support, empowerment, level of SHSG participation, group identification, and quality of life) according to age groups (see Table 2). Several one-way analyses of variance (ANOВAs), including single-step Tukey’s honestly significant difference (HSD) post hoc tests for multiple comparisons, were performed to compare mean scores for the variables of interest across the different age groups. There were a few significant differences found between different age groups on the variables measured. As can be seen in Table 2, the age group of 65 years and above reported significantly higher quality of life than adults in the ranges of 25–34 years and the 55–64 years. The age group of 65 years and above also reported significantly higher consistency of attendance of SHSGs compared to those aged 55–64 years. Finally, PWS who were 45 years of age or older reported significantly more years of attendance of SHSGs compared to groups between 18 and 34 years of age. In addition, the 55 years and above age groups reported significantly more years of attendance than those aged 35–44 years.
Primary Analyses

Bivariate correlation analysis was conducted to determine whether correlations existed between demographic (i.e., age, gender) and stuttering-related (i.e., self-rated stuttering severity, previous and current treatment involvement, previous and current SHSG participation) variables and predictor variables (i.e., social support, empowerment, level of SHSG participation, consistency of SHSG attendance, years participating in SHSGs, group identification) and criterion variables (i.e., quality of life; see Table 3). It should be noted that social support and empowerment were broken down by subscale rather than total scores in order to increase specificity of the findings. Results indicated that participants’ age, gender, previous treatment involvement, current treatment involvement, previous SHSG involvement, SHSG involvement in the past 3 years, current SHSG involvement, and self-rated stuttering severity were significantly correlated with at least one of the variables of interest. However, previous treatment involvement and previous SHSG involvement were constant variables for which correlations could not be computed with certain variables (e.g., all participants who are currently involved in treatment would necessarily report being involved

Table 2. Descriptive statistics for criterion and predictor variables according to age group.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total sample</th>
<th>Possible range</th>
<th>18–24 years</th>
<th>25–34 years</th>
<th>35–44 years</th>
<th>45–54 years</th>
<th>55–64 years</th>
<th>65+ years</th>
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<tr>
<td></td>
<td>M (SD)</td>
<td>(N = 249)</td>
<td>(n = 40)</td>
<td>(n = 70)</td>
<td>(n = 45)</td>
<td>(n = 34)</td>
<td>(n = 20)</td>
<td>(n = 27)</td>
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| Social support                  | 64.43 (15.91)| 12–84          | 65.08 (20.79)| 64.93 (14.03)| 65.36 (14.19)| 62.34 (17.17)| 60.95 (13.85)| 67.44 (15.61)| 0.52
| Family                          | 21.36 (6.21) | 4–28           | 22.33 (7.22) | 21.01 (6.10) | 21.36 (6.29) | 20.69 (6.45) | 19.53 (5.38) | 22.64 (5.75) | 0.71
| Friends                         | 20.68 (5.99) | 4–28           | 20.5 (7.75)  | 21.03 (5.63) | 21.07 (5.15) | 20.34 (6.64) | 19.21 (5.22) | 22.68 (4.20) | 1.02
| Significant other               | 22.31 (6.38) | 4–28           | 22.25 (7.30) | 22.89 (5.80) | 22.93 (5.21) | 21.31 (7.31) | 22.21 (5.19) | 22.12 (7.88) | 0.43
| Empowerment                     | 3.34 (0.41)  | 1–4            | 3.4 (0.43)   | 3.32 (0.42)  | 3.32 (0.47)  | 3.27 (0.49)  | 3.28 (0.34)  | 3.43 (0.31)  | 1.11
| Self-esteem/self-efficacy       | 3.28 (0.48)  | 1–4            | 3.40 (0.50)  | 3.27 (0.47)  | 3.29 (0.44)  | 3.15 (0.63)  | 3.19 (0.34)  | 3.41 (0.32)  | 1.51
| Community activism              | 3.47 (0.43)  | 1–4            | 3.53 (0.46)  | 3.43 (0.48)  | 3.40 (0.38)  | 3.53 (0.40)  | 3.49 (0.46)  | 3.50 (0.39)  | 0.60
| SHSG level of participation     | 7.45 (1.67)  | 1–9            | 6.59 (2.45)  | 6.73 (2.12)  | 6.37 (2.22)  | 7.41 (1.63)  | 6.88 (2.68)  | 7.89 (1.14)  | 1.98
| SHSG attendance                 | 6.67 (2.47)  | 1–9            | 6.27 (2.60)  | 6.06 (2.75)  | 5.57 (2.87)  | 6.05 (2.70)  | 3.98 (3.14)  | 7.36 (2.19)  | 3.34**
| Group identification            | 7.45 (9.18)  | NA             | 2.65 (2.40)  | 3.14 (3.04)  | 3.86 (4.30)  | 9.11 (9.54)  | 12.56 (12.40) | 13.38 (13.23) | 10.43***
| Quality of life                 | 4.00 (0.83)  | 1–5            | 4.12 (0.95)  | 3.93 (0.83)  | 4.01 (0.74)  | 3.94 (0.89)  | 4.10 (0.63)  | 4.20 (0.67)  | 0.57
|                                 | 54.99 (8.10) | 14–70          | 54.38 (9.27) | 53.70 (8.17) | 55.17 (6.00) | 56.00 (9.21) | 52.65 (7.38) | 59.73 (5.95) | 2.42*  

Note. Thirteen participants in the overall sample did not indicate their age. SHSG = self-help support group.
*p < .05. **p < .01. ***p < .001.
Table 3. Zero-order correlations between study variables.

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<td>3. Previous treatment involvement</td>
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Note. All variables were measured with self-report. C = correlation cannot be computed because one of the variables is a constant.

*p < .05. **p < .01. ***p < .001.
in treatment at some time in their lives, and therefore, no covariation is possible). Therefore, current or previous treatment involvement was combined into one variable (0 = no current or previous involvement, 1 = current or previous involvement). Similarly, every participant who reported SHSG involvement in the past 3 years would necessarily report having some prior SHSG involvement, and so covariation was possible. Due to this fact, “previous SHSG involvement” was omitted from the regression analysis because, as can be seen from Table 3, involvement in the past 3 years was much more strongly related to the variables of interest. In summary, age, gender, current/previous treatment involvement, SHSG involvement in the past 3 years, current SHSG involvement, and self-rated stuttering severity were utilized as covariates in the regression analysis.

It is worthwhile to highlight some significant correlations from Table 3 and their effect sizes using bivariate, zero-order correlations. Cohen’s (1992) operational definitions for small, medium, and large effect sizes for Pearson product–moment correlation coefficients were used to interpret the strength of the relationships between variables (i.e., $r^{2}$ = small; $r^{2}$ = medium; and $r^{2}$ = large effect size). Quality of life was positively and significantly correlated with social support from family (large effect size), friends, and significant others (medium effect sizes); self-esteem/self-efficacy (large effect size) and community activism (small effect size); level of SHSG participation (medium effect size), consistency of attendance in SHSG, years attending SHSGs; and group identification with other PWS (small effect size). Level of SHSG participation was positively and significantly correlated with social support from family and friends (small effect sizes), self-esteem/self-efficacy (small effect size), community activism (medium effect size), and group identification (medium effect size). Self-rated stuttering severity was significantly and negatively correlated with social support from friends (small effect size), self-esteem/self-efficacy (medium effect size), years of participation in SHSGs for stuttering (small effect size), and quality of life (small effect size).

Hierarchical regression analysis was conducted to determine the relationship of social support, empowerment, level of SHSG participation, consistency of SHSG attendance, years of SHSG involvement, and group identification to quality of life in the sample of adults who stutter. Again, social support and empowerment were divided into subscales rather than being kept as overall scores to increase the detail of the findings. That is, divisions were made between social support from family, social support from friends, and social support from significant others on the Multidimensional Scale of Perceived Social Support. Divisions were also made between the “self-esteem/self-efficacy” and the “community activism” subcomponents of the Empowerment Scale. Guided by the principle of causal priority (Cohen & Cohen, 1983), demographic variables, including age and gender were entered on Step 1; stuttering-related variables, including self-rated stuttering severity, current/previous treatment, and SHSG involvement, were entered on Step 2; and social support (family, friends, significant other), empowerment (self-esteem/self-efficacy, community activism), level of SHSG participation, consistency of SHSG participation, years of participation in SHSGs, and group identification were simultaneously entered as the predictor variables in Step 3. Quality of life served as the outcome variable. Examination of tolerance and variance inflation factor in all regression analyses indicated that multicollinearity was not a concern in any regression equation.

Results indicated that, after controlling for demographic and stuttering-related variables, both empowerment (self-esteem/self-efficacy), $t(147) = 5.34, p < .001$, and social support from friends, $t(147) = 2.76, p = .007$, significantly predicted quality of life. Importantly, social support (family, friends, significant other), empowerment (self-esteem/self-efficacy, community activism), level of SHSG participation, consistency of SHSG attendance, years participating in SHSGs, and group identification accounted for 38.1% of the variance in participants’ quality of life, above and beyond the variance explained by demographic and stuttering-related variables (see Table 4). The overall model accounted for 56.1% of the variance in quality of life.

Discussion

The purpose of this study was to examine the relationship of four psychosocial variables to quality of life in a sample of adults who stutter. Results indicate that increased levels of self-esteem/self-efficacy and social support from family predicted higher quality of life after controlling for demographic and stuttering-related variables. The findings support previous research demonstrating that higher levels of psychological resilience (i.e., positive adjustment and adaptive coping when facing adversity) in PWS are predicted by increased feelings of control over one’s life (self-efficacy) and having more helpful social support networks and higher levels of social functioning and activity (Blumgart et al., 2014; Craig et al., 2011). The findings also appear to support the qualitative research of Plexico et al. (2009) who concluded that positive outcomes in stuttering management were linked to more action-oriented coping strategies that focused on the needs of the self rather than trying to protect oneself from reactions of listeners by avoiding stuttering. Furthermore, the findings of the current study support the contention of Craig et al. (2011) that protective factors, such as social support, social activity and engagement, and self-efficacy, are likely to reduce the negative impact of the severity of the disorder on psychological well-being.

It is important to reiterate that stuttering often results in public and private stigma (Boyle, 2013a). Protective mechanisms, such as reduced social activity or social avoidance and rejection of social networks, are often employed by PWS to avoid the pain of stigmatization (Plexico et al., 2009). However, as this study and others have demonstrated, reduced social support and engagement with others is related to decrements in quality of life. Therefore, it is important that clients who stutter who desire to avoid social contact and limit their social participation due to stuttering receive encouragement and services that seek to increase social interaction and engagement.
connection with others. In particular, working with families of PWS, including them in the treatment process, and encouraging an open dialogue between family members about stuttering may be important steps in increasing perceived social support from family members. It is also noteworthy that the level of SHSG participation was positively related to social support from friends and family, empowerment (both in terms of self-esteem/self-efficacy and community activism), group identification, and quality of life. It might be the case that participating in SHSGs and establishing other social contacts with PWS can facilitate a sense of belonging to an “in group.” This, then, may help to engender a sense of self-esteem and self-efficacy in PWS.

Management of adult stuttering would benefit from increasing self-esteem/self-efficacy and social support for PWS, particularly from family members. Increasing clients’ sense of self-esteem and self-efficacy may be accomplished through a variety of mechanisms, including education in stuttering, teaching disclosure techniques, cognitive restructuring of negative beliefs, andassertiveness skills. There is an increasing amount of evidence suggesting that therapies addressing cognitive and affective dimensions, such as assertion training, cognitive-behavior therapy, mindfulness-based stress reduction, and acceptance and commitment therapy, can help to buffer negative effects of stuttering (Beilby, Byrne, & Yaruss, 2012; Blood, 1995; Boyle, 2011; Constantino, Eger, & Matthis, 2013; de Veer, Brouwers, Evers, & Tomic, 2009; Menzies et al., 2008; Menzies, Onslow, Packman, & O’Brian, 2009; Murphy, Yaruss, & Quesal, 2007). Therefore, therapies with these components should be considered for PWS demonstrating cognitive distress. It is important for professionals and students in SLT to be aware of this evidence and the benefits that can come from addressing cognitive and affective components of stuttering.

Regarding improvement of social support from family members, it seems important that therapy for PWS should include family members (e.g., spouse, siblings, parents) in the process as much as possible. Recent research by Beilby, Byrne, & Young (2012) has analyzed relationships between PWS and their siblings and parents. Those authors conducted a mixed methods study, including 12 sibling dyads and their parents, and results indicated that some fluent siblings provide emotional support and are involved in the treatment of the sibling who stutters. However, some fluent siblings have misunderstandings about the nature and causes of stuttering, can become annoyed and embarrassed about the stuttering of the sibling, report receiving less parental attention than the sibling who stutters, and perceive that feelings about the sibling who stutters are never discussed with the parents. In addition, Lau, Beilby, Byrne, and Hennessey (2012) conducted semi-structured interviews with 10 school-age children who stutter. The results of that study indicated that some parents can give general and unhelpful advice to their children who stutter to improve fluency (e.g., breath, slow down, or start the sentence again). Some of the participants thought that how their parents tried to intervene to reduce stuttering was frustrating and highly disruptive (e.g., finishing sentences for the child).

Although the two previous studies described focused on school-age children who stutter rather than adults, the findings may also be relevant for older PWS. For example, a number of strategies could be included in therapy to modify the family interaction regarding stuttering, including sibling or parent education as to the causes of stuttering, suggestions to parents that include providing an equal amount of attention to all of the children in the family, being open to discussing sibling feelings about stuttering, and offering helpful ways to address stuttering that will not be perceived as disruptive by the PWS. If the PWS feels comfortable discussing his or her stuttering with family members, educating them about stuttering, and demonstrating therapy techniques to them, this may have the effect of increasing perceived support from those family members.

### Table 4.
Hierarchical regression analyses of social support, empowerment, SHSG participation, and group identification on quality of life for adults who stutter.

<table>
<thead>
<tr>
<th>Step</th>
<th>Variable</th>
<th>β</th>
<th>t for within-step predictors</th>
<th>ΔR² change for step</th>
<th>Cumulative R²</th>
<th>ΔF for step</th>
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<td>0.020</td>
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<td>0.180</td>
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<td>3</td>
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</table>

*p < .05. **p < .01. ***p < .001.
regarding stuttering. Future research should explore these issues.

There are limitations to this study. First, the sample was obtained through therapy and SHSG networks. Therefore, this study likely overrepresented PWS who have sought help for their stuttering, and findings may not be generalizable to all PWS, especially those who have not reached out for external support. Second, there are possibly other factors not addressed in this study that are relevant to quality of life in adults who stutter, including physical health and fitness, employment and income, and emotional function. Nevertheless, it does appear that a large amount of variance in quality of life is accounted for using empowerment (especially in the self-esteem/self-efficacy component) and social support (especially from the family), and so these variables are important to consider. Third, the data presented in this study are correlational, and statements of causal determination cannot be made.

Further investigations should continue to determine factors that protect PWS from the negative consequences of stuttering (Craig et al., 2011). Future research designs could implement prospective designs that measure changes in empowerment and social support over time. Future studies should also investigate comparisons between different SHSG organizations for stuttering and comparisons between attending local and national meetings and conferences for stuttering. Also, although prior treatment was related to higher quality of life in this study, the specific types of treatment that participants were involved in is not known. Therefore, examining the effects of different types of treatment (e.g., fluency shaping, stuttering modification, hybrid approaches) on quality of life seems important to investigate. Finally, it will be useful to investigate the impact of a variety of methods for social and community engagement in PWS. For example, PWS are now connecting with one another digitally on Facebook, podcasts, Twitter, and Google Chat. It would be valuable to determine the relationship between these different types of social activity and psychological well-being in PWS.

In conclusion, the current results support a growing body of research suggesting that social support combined with a personal sense of empowerment may positively influence quality of life in individuals who stutter. Specifically, instilling or maintaining a sense of self-esteem and self-efficacy in the client and maximizing family support received by the client are particularly critical to focus on. Importantly, protective factors, such as self-esteem/self-efficacy and social support from the family, predicted quality of life independent of self-rated stuttering severity. This implies that regardless of the stuttering severity of a PWS, enhancing social support from the family and self-esteem/self-efficacy can be psychologically beneficial. These findings emphasize the need to continue developing therapies that maintain or strengthen helpful social support networks for PWS in addition to increasing their sense of self-esteem and self-efficacy. In this manner, SLPs can help improve quality of life in their clients who stutter who are having difficulty coping with the disorder. Furthermore, although many clients who stutter enter therapy believing that increasing fluency is the sole focus of therapy, a comprehensive therapy process also involves basic components of improving the client’s quality of life and societal participation. Many clients who stutter may not have thought about those aspects of the change process. It is therefore important for SLPs to convey this information to clients during treatment.

Acknowledgments

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References


