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Self-Perception of Code-Switching Among Kannada-English Bilingual Adults Who Do and Do Not Stutter

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Purpose: Language switch is one of the fluency strategies exhibited by bilingual adults who stutter (BAWS) to avoid stuttering. The present study aimed to compare the self-perceived code-switching (CS) behaviours between bilingual adults who do (BAWS) and do not stutter (BAWNS).

Methods: Sixty Kannada-English Bilingual adults (30 BAWS and 30 BAWNS) participated in the study. The participants completed the adapted Bilingual Switching questionnaire (BSWQ) for assessing self-perceived CS behaviours.

Results: The results of the current study indicated no significant difference in overall switching scores between BAWNS and BAWS. However, the mean score of L1 switch and L2 switch constructs was significantly higher for BAWNS than BAWS. On the contrary, the mean scores of contextual switching were significantly more for BAWS than BAWNS. It indicates that the BAWS use their switching behaviour in particular situations or environments more than BAWNS. In addition, the BAWS use language switching (LS) more voluntarily than BAWNS.

Conclusions: The findings of the present study suggests that the intended switching in BAWS may be to avoid dysfluencies. Moreover, there was a significant difference across the stuttering severity on BSWQ scores, indicating the effect of stuttering severity in CS behaviours.

Keywords: Stuttering, Code-switching, Self-perception, Bilingualism, Adults who Stutter

INTRODUCTION

Stuttering is a highly variable speech disorder, which is characterised by predominant overt features (repetitions, prolongations, pauses, and blocks), and hidden covert features (behavioural changes, affective, and cognitive reactions) [1]. From the perspective of adults who stutter (AWS), the stuttering moments are anticipated before the onset of dysfluencies [2-4]. The possibility of such instances may actuate the AWS to use coping strategies [5-8]. In persons who stutter, avoidance and escape behaviours are often referred to as secondary behaviours. The escape behaviours are eye blinks, head nods, or interjections, and they occur when the person wants to terminate the stutter [9]. However, avoidance strategies arise to prevent the onset of dysfluencies. Such strategies include avoiding eye contact, specific situations, conversational topics and changing specific words, or trying some new words to cope with the anticipation and occurrence of stuttering [5,7,10-13]. Interestingly, bilingual adults who stutter (BAWS) when anticipating stuttering may adopt a riveting speaking strategy, for example, switching words

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from one language to another. Medina et al. [14] and Ganesh [15] agreed that language switch is one of the fluency strategies exhibited by BAWS to avoid stuttering. However, most literature regarding bilingualism and stuttering majorly focused on the variability of stuttering across languages [16-20]; and the influence of linguistic factors on bilingual stuttering [21,22]. Furthermore, the characteristics of switching between languages in BAWS are relatively less explored. This behaviour of switching between languages is often called code-switching (CS) or language switching (LS) [23].

CS is a communication strategy

CS is the well-known traits in the speech pattern of bilinguals [24]. According to Poplack [25,26], the alternation of two languages exhibited at the discourse level, sentence or constituent level, is called CS. Das [27] referred CS and CM a communication strategy followed by bilinguals in communication discourse. Because, it helps to fulfil certain objectives such as signalling social relationships and language preferences, obviating difficulties, framing discourse, contrasting personalization and objectification, conveying cultural-expressive message, giving special effect to some key words of the utterance, lowering language barriers, maintaining appropriateness of context, and reiterating messages [28]. CS might be caused by linguistic, psycho-linguistic, and socio-pragmatic factors in bilinguals [29].

Linguistic factors affecting CS

Researchers believe CS frequently occurs due to low language proficiency [29-32]. Consequently, Gollan and Ferreira [33] reported that balanced BAWNS tend to switch languages more often than unbalanced bilinguals. The balanced bilinguals may often switch languages for their convenience, as they were equally proficient in both languages [34,35]. Furthermore, a way to delineate the effect of language proficiency in LS is to study highly proficient BAWS in two languages.

Socio-psycholinguistic factors affecting CS

Despite language proficiency and competence, it may depend on cognitive factors such as cognitive control functions, cognitive flexibility, the general level of cognitive abilities, and personality traits [30], social factors, including social roles, pragmatic-contextual aspects [36,37], and semantic factors [38-40]. The semantic factors include loan words, conscious lexical borrowing from another language, and lack of equivalent words in one language for some ambiguous or abstract words in another language. For example, an English phrase, 'Do not use plastic,' may express in Kannada as 'plastık balake madabaradhu.' Furthermore, Timm [41] reported that Mexican-American and Spanish-English bilingual speakers switched to their L1 (first language) Mexican or Spanish to express personal feelings; further, during a conversation about their cultural aspects, the individuals switched to L2 (second language), which is English. Therefore, CS may depend on personal factors. Furthermore, it is necessary to study the interindividual differences which induce CS.

Inter-individual differences in CS

Although the CS would be expected in most of the bilinguals, the reasons for using CS varies across each individual. Few studies from normal-speaking individuals showed the reasons for LS. Such as, Bhatia and Ritchie [42] reported that quotations, reiteration, hedging, interjections, idioms and deep-rooted cultural wisdom are the major factors which generate CS. Weston [43] predicted CS may depend on individual social and life-history traits, such as domestic lifestyle, spousal nationality, and immediate social network. Further, Itmeizeh and Badah's [44] reported that young bilingual adults felt more confident when they code-switch. Furthermore, it was stated that CS occurs when there is a difficulty in retrieving words [45].

In the Indian context, a recent study [46] on Hindi-English bilinguals reported that CS might depend on an interlocutor with whom the individual interacts. Furthermore, the study showed the type of education, residential status, migration history within the country, level of affluence, parents' or spouse's occupation and educational history, parents' or spouse's attitudes towards L2 usage and proficiency might influence the CS. Few other studies revealed CS and CM were used to fill the lexical gaps in different discourse functions (narration and conversation) [36,47-51]. Similarly, Hegde et al. [52] found that CS occurs to complete the lexical gaps in complex discourse functions, while assessing the various types of CS, in Kannada-English bilinguals. Moreover, frequent CS was reported in literate Kannada-English bilinguals living in Karnataka due to abundant English-borrowed words in their linguistic repertoire [53]. However, the self-reports are better for understanding the individual differences in LS [29].

A recent survey documented the self-reported attitudes of young and middle age of Kannada-English BAWNS towards their CS behaviour [54]. The results showed both groups identified situational demands are the most probable reason for

CS. Further, the relationship between age, proficiency, acceptability judgments and attitudes toward CS on young and middle age Kannada-English BAWNS report regardless of age and proficiency a positive attitude exists on them towards their CS. Moreover, there was a higher acceptance rate for CS sentences than non-switched sentences were reported in Kannada-English bilingual adults. However, the underlying causes for CS other than situational demands and semantic factors (fulfilling lexical gaps), are undetermined. Further, the studies have done on Kannada-English BAWNS were majorly focussed on the types of CS and self-reported attitudes of CS, therefore there is a need to identify the factors involved in CS of Kannada-English bilingual adults.

In the stuttering literature, few investigations attempted to probe the self-reports of BAWS on their LS behaviours worldwide [14,15,50,51,55,56]. Firstly, Klugman [55] identified that African-English BAWS uses CS behaviour as their avoidance strategy, corresponding to their self-reports. However, it was not reported by bilingual adults who do not stutter (BAWNS). On the other hand, in the same study, a higher frequency of disfluencies and speech rate was noticed, during English language (L2) conversation in BAWS. However, a relationship between dysfluency, speech rate, and CS behaviours in BAWS would have been clearly stated. Similarly, a study on fifteen Lebanese English BAWS (11 males; 4 females) explored the avoidance behaviours using an interview method [56]. The results found that 90% of Lebanese-English BAWS rephrased or replaced a word from another language or synonym from the same language vocabulary. It was suggested that the Lebanese BAWS used CS, not due to a lack of linguistic proficiency but as avoidance behaviour. In addition, most BAWS self-confirmed their intentional use of LS was to avoid stuttering. Further, a recent qualitative study by Medina et al. [14] explored fluency-inducing strategies used by twenty Spanish-English BAWS in the age range of 18-61 years, using open-ended questions. The results suggested three major themes, which emerged from participants' responses regarding self-reported coping strategies, such as clinical techniques, focused breathing, and idiosyncratic practices. Among these strategies, the idiosyncratic practices included physiological changes, listener-focused strategies, emotional regulation, and switching words. When the authors asked about CS use, half of the participants said they switch languages to induce fluency. Finally, the study concluded a need for individualized client thorough assessment of avoidance and escape behaviours (especially on CS behaviours) and customized treatment programs for bilinguals who stutter. Following that, a similar qualitative study on Indian-American BAWS reported that CS is to cope with dysfluent utterances [15].

Furthermore, in the Indian context, a study [51] predicted that Tamil-English BAWS use CS while conversing in a second language, based on the scores of the Matrix language framework (MLF) model [57]. Further, the authors reported that BAWS uses more CS than BAWNS based on descriptive scores. However, the scores were not statistically significant. Similarly, when assessed for the nature of CS behaviours, multilingual adults who stutter were found to have more CS behaviours than multilingual adults who do not stutter [50]. The important point from the limited available evidence is that Indian BAWS use CS as their coping strategy, and the CS behaviour in BAWS is more than in BAWNS. However, most studies mentioned above are unpublished and have yet to study LS behaviour exclusively. Hence the validity of those study results could be better. Furthermore, there is a dearth of evidence in Kannada-English BAWS related to CS. Therefore, further research is needed to compare the LS behaviour between Kannada-English BAWS and BAWNS to resolve the discrepancies in the existing literature.

Need for the present study

In addition, there seems to be obscurity in the speculation of CS as a coping strategy in BAWS. Further, the only underlying factor identified behind this avoidance strategy was dysfluencies. However, before culminating the LS behaviour to avoid dysfluencies in BAWS, it is necessary to find the underlying other factors of CS in BAWS. Further, we need to exclusively study whether the factors involve in the switching behaviour of BAWS are similar to BAWNS or not. As mentioned above, CS in bilingual adults may depend on cognitive, linguistic, social, and situational factors [42]. Furthermore, LS may appear under voluntary control. However, the CS is intentional or unintentional in the daily life of BAWS was unrevealed. Therefore, it has a high empirical need to investigate the self-perceived reasons for CS in BAWS. Further, Ganesh [15] denoted that studying the coping characteristics using a qualitative method is essential than a quantitative one, providing participants with a fact-based response. However, quantitative scores are equally important in measuring coping frequencies. Therefore, one of the CS studies suggests incorporating a questionnaire-based self-report assessment helps to understand the participants' perceptions of their LS behaviours [29].

A Bilingual switching questionnaire (BSWQ) [29] was devel-

oped to understand the inter-individual differences and to identify self-perceived LS across various factors. The BSWQ reflects the important reasonable factors for CS under four constructs. The questions involved in the questionnaire explain the tendencies of L1 and L2 switch (linguistic reasons), contextual (socio-linguistic reasons), and awareness of their switching behaviour (intended or unintended). Thus, it helps explore CS's linguistic, socio-linguistic, and psycho-linguistic aspects. Therefore, exploring the self-perceived LS behaviour using BSWQ in BAWS and BAWNS will help overcome individual variability. Also, we need to understand the frequency of switching behaviour across stuttering severity in BAWS. It provides information regarding the usage of LS in each severity group. The questionnaire clarifies whether BAWS intentionally uses LS behaviour or is just a natural phenomenon that occurs unintentionally. However, the reason behind the intentional switching may not be explained. Furthermore, the comparison between BAWS and BAWNS on a specific question called conscious switching may show the frequent voluntary (conscious/intended) switching group. Therefore, it may help to discuss and subsequently study the possible reasons for frequent conscious switching in both the groups. Overall, the current study facilitates a clear-cut understanding of the various factors involved in the LS behaviours of BAWS and BAWNS. Moreover, questionnaires-based research has not been exclusively done on LS in Kannada-English BAWS.

Present study

The current study aimed to investigate the self-perceived CS behaviours between Kannada-English BAWS (experimental group) and BAWNS (control group). Also, in the current study, an attempt was made to objectively document and compare the frequency of CS behaviour between BAWS and BAWNS using the BSWQ. Further, the current study includes highly proficient bilingual adults in both languages. Since the CS of Kannada-English bilinguals is often reported due to less proficiency in either of the languages [48,53]. It is pertinent to know the reasons for switching when there is no influence of low language proficiency in BAWS and BAWNS. Further, there is a need to understand how the frequency of CS behaviour differs across stuttering severity. Hence, the research questions of our study were as follows: (1) Does the overall switching frequency of self-perceived CS behaviour differ between BAWS and BAWNS? (2) Does BAWS and BAWNS differ in the frequency of switching behaviour across four switching constructs? (3) Is there any relationship between the stuttering severity and CS behaviour? Accordingly, the main aim of the current study was to investigate the self-perceived CS behaviour between BAWS and BAWNS. Specifically, the first objective was to investigate the frequency of overall CS behaviour between BAWS and BAWNS. The second objective was to investigate the frequency of CS behaviour between BAWS and BAWNS across four constructs; L1 switch, L2 switch, contextual switch, and Unintended switch. The third objective was to investigate the correlation between the stuttering severity and overall mean switching scores. Based on the objectives listed above, it was hypothesized that there is no significant difference in overall mean switching scores between BAWS and BAWNS. The second hypothesis was that there is no significant difference between BAWS and BAWNS across four switching constructs; L1 switch, L2 switch, contextual Switch, and Unintended switch. The third hypothesis was that there is no significant correlation between stuttering severity and overall mean switching scores.

METHODS

Research design

A cross-sectional survey design was employed for this study.

Ethical consideration

Ethical approval was obtained from the All-India Institute of Speech and Hearing ethical research committee.

Participants

Recruitment

A total of 60 Kannada-English bilingual adults, aged between 18 and 40 years, participated in the study. The study employed convenience and purposive sampling for selecting the participants. Group I included of 30 BAWNS with a mean age of 25.76 (SD = 3.33), while Group II, the experimental group, had 30 BAWS with a mean age of 25.63 (SD = 2.52). There were 28 males and two females (ratio = 14:1) in each group, as the authors had taken age and gender-matched groups. The group I participants (BAWNS) were recruited from Mysore and Bangalore. Subsequently, group II participants (BAWS) were recruited from the All-India Institute of Speech and Hearing, Mysore, where they enrolled on their stuttering assessment. The group II participants were diagnosed with stuttering in primary outpatient speech and language evaluation department of the institute by a qualified speech language pathologist using Stuttering Severity Instrument (SSI-4) [58]. How-

ever, the author confirmed group I, with no stuttering, based on the interview. Further the groups I and II participants were informed about the study details, tasks and procedures, and informed consent was taken from all the participants (Groups I & II) who volunteered to participate in the study. The participants (Groups I & II) did not associate with cognitive, hearing, or neurological impairments. Further, the obtained information regarding age, gender, and known language (First language [L1] & Second language [L2]) in BAWNS (Refer to Table 1a). In BAWS, the collected information on age, gender, years of stuttering experience, family history, speech therapy, comorbid conditions, and known languages (L1 & L2) (Refer to Table 1b). Moreover, none of the BAWS had a treatment history, and nine had a positive family history.

The first author administered the SSI-4 in L1 and L2 to document the stuttering severity. The SSI-4 is a comprehensive measure which evaluates various aspects of stuttering, including frequency, duration, physical concomitants, and naturalness of speech. It provides quantitative measures that may help clinicians diagnose, plan treatment, and track progress over time. It is one of the widely used assessment tools for stuttering. Furthermore, it has only the monolingual American-English normative. However, it was considered for assessment due to no established norms for Kannada-English bilinguals [59]. Of the 30 BAWS, twelve participants' severity was diagnosed as mild, fourteen as moderate, and four as severe

Table 1a. Demographic details of bilingual adults who do not stutter

Participant	Age	Gender	History of any medical conditions	Language proficiency in L1	L1 proficiency overall mean score	Language proficiency in L2	L2 proficiency overall mean score
1	22	Male	Negative	Native-like proficiency	4	Good	3.25
2	25	Male	Negative	Native-like proficiency	4	Good	3.5
3	33	Male	Negative	Native-like proficiency	4	Good	3.25
4	24	Male	Negative	Native-like proficiency	4	Good	3.5
5	21	Male	Negative	Native-like proficiency	4	Good	3
6	22	Male	Negative	Native-like proficiency	3.75	Native-like proficiency	3.75
7	37	Male	Negative	Native-like proficiency	4	Good	3.5
8	29	Male	Negative	Native-like proficiency	4	Good	3.5
9	27	Male	Negative	Native-like proficiency	4	Good	3.5
10	23	Male	Negative	Native-like proficiency	4	Good	3
11	26	Male	Negative	Native-like proficiency	4	Native-like proficiency	3.75
12	26	Male	Negative	Native-like proficiency	4	Native-like proficiency	3.75
13	23	Male	Negative	Native-like proficiency	4	Good	3
14	26	Male	Negative	Native-like proficiency	4	Good	3.5
15	25	Female	Negative	Native-like proficiency	4	Native-like proficiency	4
16	29	Male	Negative	Native-like proficiency	4	Good	3.5
17	28	Male	Negative	Native-like proficiency	4	Good	3.5
18	24	Male	Negative	Native-like proficiency	4	Good	3.5
19	25	Male	Negative	Native-like proficiency	4	Native-like proficiency	3.75
20	22	Male	Negative	Native-like proficiency	4	Good	3.5
21	27	Male	Negative	Native-like proficiency	3.75	Good	3.5
22	25	Male	Negative	Native-like proficiency	4	Good	3.5
23	24	Male	Negative	Native-like proficiency	4	Good	3.5
24	24	Female	Negative	Native-like proficiency	4	Good	3.5
25	29	Male	Negative	Native-like proficiency	4	Native-like proficiency	3.75
26	25	Male	Negative	Native-like proficiency	4	Good	3
27	23	Male	Negative	Native-like proficiency	4	Good	3.25
28	25	Male	Negative	Native-like proficiency	4	Good	3.5
29	25	Male	Negative	Native-like proficiency	4	Good	3.5
30	29	Male	Negative	Native-like proficiency	4	Good	3.5

Table 1b. Demographic details of BAWS

Participants	Age	Gender	Age of stuttering onset	Family history of stuttering	Treatment history	SSI-Score in L1	Stuttering severity in L1	SSI-Score in L2	Stuttering severity in L2	Language proficiency Kannada	L1 proficiency overall mean score	Language proficiency English	L2 proficiency overall mean score
1	23	Male	3	Negative	Absent	25	Moderate	27	Moderate	Native-like proficiency	4	Good	3.5
2	22	Male	4	Positive	Absent	24	Moderate	25	Moderate	Native-like proficiency	4	Good	3.5
3	34	Male	3	Negative	Absent	19	Mild	22	Mild	Native-like proficiency	4	Good	3.5
4	24	Female	2.5	Positive	Absent	29	Moderate	26	Moderate	Native-like proficiency	3.75	Good	3.5
5	25	Male	3.3	Negative	Absent	39	Severe	36	Severe	Native-like proficiency	4	Good	3.5
6	26	Male	3	Negative	Absent	18	Mild	22	Mild	Native-like proficiency	3.75	Good	3.5
7	22	Male	6	Negative	Absent	32	Severe	38	Severe	Native-like proficiency	4	Good	3.5
8	28	Male	4	Positive	Absent	23	Mild	24	Mild	Native-like proficiency	4	Good	3.5
9	25	Male	3.5	Negative	Absent	30	Moderate	31	Severe	Native-like proficiency	3.75	Good	3.5
10	22	Male	4	Negative	Absent	31	Severe	29	Severe	Native-like proficiency	4	Good	3.5
11	26	Male	6	Negative	Absent	22	Mild	24	Mild	Native-like proficiency	3.75	Good	3.5
12	27	Male	3	Positive	Absent	21	Mild	23	Mild	Native-like proficiency	4	Native-like proficiency	4
13	22	Male	4.5	Negative	Absent	25	Moderate	27	Moderate	Native-like proficiency	3.75	Good	3
14	24	Male	4	Negative	Absent	28	Moderate	29	Moderate	Native-like proficiency	3.75	Good	3.5
15	26	Male	4	Negative	Absent	29	Moderate	31	Moderate	Native-like proficiency	3.75	Good	3.5
16	26	Male	6	Negative	Absent	22	Mild	24	Mild	Native-like proficiency	3.75	Good	3.5
17	27	Male	12	Negative	Absent	19	Mild	21	Mild	Native-like proficiency	4	Good	3.5
18	22	Male	2	Positive	Absent	28	Moderate	29	Moderate	Native-like proficiency	3.75	Good	3.5
19	28	Male	3	Negative	Absent	25	Moderate	29	Moderate	Native-like proficiency	4	Good	3.25
20	29	Male	4	Negative	Absent	29	Moderate	31	Moderate	Native-like proficiency	3.75	Good	3.5
21	27	Male	6	Negative	Absent	18	Mild	22	Mild	Native-like proficiency	4	Good	3.5
22	25	Female	3.2	Positive	Absent	24	Mild	24	Mild	Native-like proficiency	3.75	Good	3.5
23	29	Male	3	Positive	Absent	25	Moderate	28	Moderate	Native-like proficiency	4	Good	3.5
24	26	Male	4	Negative	Absent	19	Mild	24	Mild	Native-like proficiency	4	Good	3.5
25	25	Male	6	Negative	Absent	33	Severe	39	Severe	Native-like proficiency	4	Good	3.5
26	26	Male	9	Negative	Absent	29	Moderate	30	Moderate	Native-like proficiency	4	Good	3
27	25	Male	2	Positive	Present	31	Moderate	29	Moderate	Native-like proficiency	4	Good	3.25
28	26	Male	3	Negative	Absent	21	Mild	24	Mild	Native-like proficiency	4	Good	3.5
29	26	Male	3.3	Negative	Absent	29	Moderate	31	Moderate	Native-like proficiency	4	Good	3.5
30	26	Male	2	Positive	Present	22	Mild	21	Mild	Native-like proficiency	4	Good	3.5

stuttering. The SSI-4 scores slightly varied between L1 and L2; however, there were no changes in the severity. The participants were native speakers of Kannada (L1), with English acquired as the second language (L2). Further, Language Proficiency Questionnaire Indian version (LEAP-QI) [60] was administered to both groups to understand their linguistic background and language proficiency. They had good speaking, understanding, reading, and writing abilities in both languages. The self-reported overall language proficiency scores of BAWNS and BAWS were given in Table 1a and 1b. Further, all had native-like proficiency in L1 but good proficiency in L2. Furthermore, the current study wanted to include only highly proficient Kannada-English bilingual adults (groups 1 & 2) in both languages; since the CS of these bilingual adults was often reported due to less proficiency in either of the languages. Moreover, it is pertinent to know the reasons for CS when there is no influence of low language proficiency in BAWS and BAWNS.

Self–assessment questionnaire

The BSWQ [29] is a quantitative self-rating measure to assess the self-perception about LS. The questionnaire was used predominantly in the literature to characterise LS behaviours. It contains twelve questions to which the participants rate their perceptions using a five-point rating scale (1-never, 2-very infrequently, 3-occasionally, 4-frequently, and 5-always). It assesses four constructs about LS as (i) L1 switching tendencies (tendency to switch from L2 to L1; L1-switch); (ii) L2 switching tendencies (tendency to switch from L1 to L2; L2-switch); (iii) contextual switch, which identifies the frequency of switches usually triggered by a particular environment, topic, or situation; and (iv) un-intended switch, which measures the awareness and intention of the LS behaviour.

Switching constructs

The CS construct is a measure of switching patterns influenced by sociolinguistic factors related to specific situations, people, or topics in which the bilingual speaker usually switches. It includes, L1 switch, L2 switch, contextual switch, and Unintended switch [29].

L1 switch (L2 to L1) and L2 switch (L1 to L2) tendency

"L1 switching tendency" refers to the propensity of an individual to switch from their second language (L2) to first language (L1) during communication. However, the L2 switching tendency is the inclination of an individual to switch from L1 to L2 [28]. This construct helps us understand the switching tendencies from the second language to the first language (L1 switch) or vice versa (L2 switch). It provides the self-perceived information of BAWS and BAWNS about their switching frequencies in each language. Also, it shows the preferred language transfer, either from L1 to L2 or L2 to L1, in both groups. Furthermore, it proclaims whether the switching frequencies between both groups differ for the L1 switch and L2 switch. These two constructs help measure the competency, proficiency, and semantic differences between L1 and L2 [28]. For example, suppose a Kannada-English bilingual speaker tries to express the phrase, "I have a sophisticated experience in college", and he or she may say, "I have olle college experience" (L1 switch). It may be due to their less proficiency in the English language. Thus, they do not have the word "sophisticated" in their linguistic repertoire and end in CS.

Contextual switching

"Contextual switching" refers to the act of adjusting one's language, tone, or communication style based on the context or situation in which they are speaking. In this construct, we can find whether LS depends on contextual factors [28]. It provides the switching patterns influenced by sociolinguistic factors related to specific situations, people, or topics in which the bilingual speaker usually switches. For example, suppose a Kannada-English bilingual speaker is speaking in Kannada with a colleague who is also a native Kannada speaker accidentally when another colleague (non-native speaker of Kannada) may join their conversation. In that case, the group may continue their conversation in English. The automatic language switch occurs to satisfy the conversation partner and shows contextual or situational roles in CS. Further, it may help assess which group (BAWS or BAWNS) has a greater tendency to contextual switching.

Unintended switching

The phenomenon known as "unintentional switching" occurs when someone speaks in an alternate language or dialect without realizing it [28]. It refers to involuntary switching, to put it another way. Yet, the construct indirectly counts the number of behaviors that are voluntary. Because intentional or voluntary switching occurs if the number of unintentional switching decreases. Therefore, present switching construct shows whether the individual engages in voluntary or involuntary switching behaviour. Also, it may show differences between the two groups in their intentional switching. For ex-

ample, a BAWS may intentionally switch words from L1 to L2 if he or she has difficulty initiating the respective word (nI..nI.. nIru can change to Water).

Each construct contains three questions. The scores range from 0 to 60. The higher the BSWQ scores, the more frequent LS behaviours. Furthermore, these constructs showed a high factor simplicity S (0.89), moderate inter-factor correlation (0.14 to 0.33) and greater reliability (0.80) in Catalan-Spanish individuals [28]. The questionnaire facilitates an explicit understanding of self-perceptions of bilingual adults about their CS. Moreover, it improves the understanding of CS in relation to sociolinguistic and linguistic factors. It also aids in describing the unique variations among bilinguals for their CS. Thus, the BSWQ fits in assessing the self-perceived CS behaviours between Kannada-English BAWS and BAWNS.

Written permission was obtained from the original test author to adapt and modify the original BSWQ for Kannada-English Bilingual population. The first author modified the questionnaire based on the specific language of interest. For example, the original question, 'When I cannot recall a word in Catalan, I tend to produce it in Spanish immediately'; the modified question, 'When I cannot recall a word in Kannada, I tend to immediately produce it in English'. All the twelve questions were modified. Further, the BSW questionnaire for Kannada-English bilinguals was content validated by five bilingual Kannada-English speaking speech-language pathologists with five years of experience in the speech and hearing field. The content validation was done using a three-point rating scale (0-not appropriate; 1-appropriate; 2-most appropriate), resulting in appropriate to Kannada-English speaking bilinguals. Further, the item-level content validation index (I-CVI-0.98) was obtained based on the expert's scores. With reference to the cut-off scores of item-content validation index (I-CVI), 0.98 is highly satisfactory [61]. Therefore, the modified questions of BSWQ (12-questions) to assess the Kannada English-speaking bilinguals are satisfactory. Refer to Table 2 for the modified BSWQ of Kannada-English bilinguals and I-CVI scores. Furthermore, the authors ensured that the modified questions were clear, concise, and easily understandable by Kannada-English bilinguals. Also, the authors gathered good verbal feedback on the clarity, relevance, and comprehensibility of the questions from the content validators.

Administration of self-perceived rating scale

The BSWQ was administered individually to BAWS and BAWNS. The participants were seated in a quiet room, briefed about the procedure, and instructed to choose the most relevant answer to the questions. If any question required clarification, it was explained by the first author without any bias, in a neutral tone. To assess the test-retest reliability, the BSWQ was re-administered to 10 participants from each group after 10-12 days of interval. The scores for each question, construct, and the total were calculated for every participant. Further, the scores were tabulated and subjected to statistical analysis.

Statistical analysis

Shapiro Wilks test results indicated a normal distribution. Hence, an Independent sampled t-test was performed to

Table 2. Items of Kannada-English BSWQ

Items	Number of experts agreed	I-CV (Items agreed/Number of experts)	Overall I-CV
I do not remember or I cannot recall some Kannada words when I am speaking in English language.	5	1	0.98
I do not remember or I cannot recall some English words when I am speaking in Kannada language.	5	1	
I tend to switch languages during a conversation (for example, I switch from Kannada to English or vice versa).	5	1	
When I cannot recall a word in Kannada, I tend to immediately produce it in English.	5	1	
When I cannot recall a word in English, I tend to immediately produce it in Kannada.	5	1	
I do not realize when I switch the language during a conversation (e.g., from Kannada to English) or when I mix the two languages; I often realize it only if I am informed of the switch by another person.	4	0.8	
When I switch languages, I do it consciously.	5	1	
It is difficult for me to control the language switches I introduce during a conversation (e.g., from Kannada to English).	5	1	
Without intending to, I sometimes produce the English word faster when I am speaking in Kannada.	5	1	
Without intending to, I sometimes produce the Kannada word faster when I am speaking in English.	5	1	
There are situations in which I always switch between the two languages.	5	1	
There are certain topics or issues for which I normally switch between the two languages.	5	1	

compare the mean scores of L1 switch tendency, L2 switch tendency, contextual switching, unintended switching, and overall switching between BAWS and BAWNS. Further, the Mann-Whitney U test was performed to compare BAWS and BAWNS in a specific question (Question number seven, refer to Table 2), as it showed non-normality (W = 0.91; p = 0.01). One-way ANOVA was performed to compare the total mean scores across the stuttering severity. Inter-class correlation with a two-way mixed effects model was used to analyse the reliability.

RESULTS

Comparison of mean BSWQ scores between BAWNS and BAWS

Our first objective was to investigate the frequency of overall CS between BAWS and BAWNS. Further, we hypothesized that there is no significant difference between BAWS and BAWNS on overall CS frequencies. The descriptive results (overall mean scores) of BAWNS and BAWS on BSWQ are presented in Table 3. The descriptive results suggest more frequent switching of languages in BAWNS compared to BAWS. However, the inferential results of the overall mean switching scores indicated no significant difference [t (58) = -2.396, p = 0.20] between BAWNS (M = 35.73; SD = 5.26) and BAWS (M = 32.90; SD = 3.77). Therefore, the first hypothesis is accepted.

Second objective was to investigate the frequency of switching across four constructs between BAWS and BAWNS. Further, we hypothesized that there is no significant difference across constructs. Table 4 represents the total mean scores, standard deviation, and effect size of four constructs (L1 switch, L2 switch, contextual switch, and unintended switch) of BSWQ. It shows the higher mean score of L1 switch (M = 9.73, SD = 2.07) in BAWNS than BAWS (M = 8.13, SD = 1.57). Further, inferentially, the results were statistically significant [t (58) = -3.262, p = 0.00; d = 0.87]. The descriptive mean scores of L2 switch constructs were also found to be greater in BAWNS (M = 9.33, SD = 1.51) than BAWS (M = 5.80, SD = 1.58), and the results were statistically significant [t (58) = -8.825; p = 0.00; d = 1.48]. On the contrary, the mean scores (descriptive statistics) of contextual switching were more for BAWS (M = 11.10, SD = 2.07) than BAWNS (M = 9.03, SD = 2.51). Also, inferential results showed statistically significant difference [t (58) = 3.475, p = 0.00; d = 0.39]. Further, higher mean scores (descriptive statistics) were found for unintended switching in BAWS (M = 7.87, SD = 1.27) than in BAWNS (M = 7.63, SD = 1.99). However, the inferential results showed no significant difference [t (58) = 0.540, p = 0.591]. In addition, a specific question in unintended switching called "When I switch languages, I do it consciously" had higher mean scores in BAWS (M = 4.27, SD = 0.64) than BAWNS (Mean = 2.40, SD = 1.17). Further, the individual scores of the questions between BAWS and BAWNS were given in Table 5. Moreover, the inferential results showed statistically significant difference (z = -4.827, p = 0.00; d = 0.95). The constructs with significant values had a large effect size, except for the contextual switch (moderate effect size). Thus, BAWS and BAWNS have significant differences in three among the four switching constructs. Additionally, there was a significant difference found in three out of the four constructs, hence the second hypothesis is rejected. Figure 1 shows the mean scores for conscious switching of BAWS and BAWNS.

Table 3. Overall mean switching scores of BAWS and BAWNS

	BSWQ	
	BAWS	BAWNS
Mean	32.90	35.73
Standard deviation	3.77	5.26
Median	34	35
Minimum	25	24
Maximum	40	47

Relationship between mean BSWQ scores and stuttering severity

The third objective was identifying the relationship between stuttering severity and CS behaviours. Further, the hypothesis

Table 4. Total mean scores of four different constructs of BSWQ

	L1 switch tendency		L2 switch tendency		Contextual switching		Unintended switching	
	BAWS	BAWNS	BAWS	BAWNS	BAWS	BAWNS	BAWS	BAWNS
Mean	8.13	9.73	5.80	9.33	11.10	9.03	7.87	7.63
Standard deviation	1.57	2.18	1.58	1.51	2.07	2.51	1.27	1.99
Test statistics (Independent sample T test)	t (58) = -3.262 p = 0.00		t (58) = -8.825 p = 0.00		t (58) = 3.475 p = 0.00		t (58) = 0.540 p = 0.591	

Table 5. Scores between BAWS and BAWNS on a question "When I switch languages, I do it consciously"

Sl.no	BAWS	BAWNS
1.	4	2
2.	4	3
3.	4	1
4.	4	1
5.	4	1
6.	5	1
7.	5	2
8.	4	2
9.	4	2
10.	4	3
11.	3	3
12.	5	5
13.	5	2
14.	5	3
15.	5	5
16.	4	3
17.	4	4
18.	4	4
19.	4	2
20.	4	2
21.	4	5
22.	5	2
23.	5	2
24.	3	2
25.	3	2
26.	4	2
27.	4	2
28.	5	1
29.	5	2
30.	5	1

made was that there was no relationship between them. In order to identify the effect of stuttering severity in LS, the BAWS were grouped based on their degree of severity, such as mild, moderate, and severe. The descriptive results (scores of each construct and overall switching mean scores) of BAWS across mild, moderate, and severe degrees are given in Tables 6 and 7. The results showed a more remarkable LS behaviour as the stuttering severity increased. Using, one-way ANOVA, a significant difference ($F(2)=5.606$, $p=0.00$) across mild ($M=31.00$; $SD=4.02$), moderate ($M=33.74$; $SD=2.67$), and severe stuttering ($M=37.25$; $SD=2.63$) in overall switching scores (refer Table 8). Furthermore, an attempt to compare scores of each construct across stuttering severity found a significant

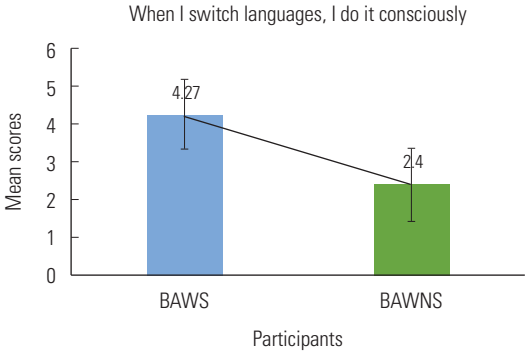

Figure 1. Mean score of a question from Unintended Switching between BAWS and BAWNS.

difference for the constructs L1 ($F(2)=4.81$, $p=0.01$), L2 ($F(2)=9.84$, $p=0.01$), and contextual switching ($F(2)=3.31$, $p=0.05$). However, unintended switching ($F(2)=1.02$, $p=3.71$) did not differ significantly (refer Table 9). Further, the data were subjected to post hoc analysis. The results of the Bonferroni test (refer Table 10 for each construct of BSWQ) identified a significantly greater LS behaviour in BAWS with severe stuttering compared to mild stuttering ($\alpha/3=-6.250$, $p=0.00$) in overall switching. Additionally, for each construct, there was a significant difference between moderate and mild for the L1 switch ($\alpha/3=-1.58$, $p=0.01$), severe and moderate for the L2 switch ($\alpha/3=-2.93$, $p=0.02$), and severe and mild for the contextual switch ($\alpha/3=-3.66$, $p=0.05$). Therefore, the third hypothesis is rejected.

Test re-test reliability

A test re-test reliability was performed for 10% of the participants (BAWS and BAWNS) across time (two weeks). Intraclass correlation coefficient results indicated excellent reliability for BAWS ($r=0.94$) and BAWNS ($r=0.96$).

DISCUSSION

The present study was primarily initiated to understand the self-perceived CS behaviour between bilingual adults who do and do not stutter using a self-report questionnaire. The BSWQ provided a conception of individuals' thoughts on their CS. Further, the questionnaire provided a discernment to establish a distinction between BAWS and BAWNS based on their self-perspective of CS behaviours. In addition, a specific question in BSWQ examined the intentional CS in BAWS. Moreover, the present study examined how stuttering severity might affect CS.

Table 6. Scores of BAWS in different constructs of BSWQ across severity

Sl.no	Stuttering severity	L1 switch	L2 switch	Contextual switch	Unintended switch	Overall switching scores
1.	Mild	8	6	11	8	33
2.	Mild	6	4	12	6	28
3.	Mild	8	6	8	7	29
4.	Mild	5	5	7	8	25
5.	Mild	5	4	8	8	25
6.	Mild	8	7	13	8	36
7.	Mild	6	5	13	9	33
8.	Mild	6	5	9	8	28
9.	Mild	6	5	10	9	30
10.	Mild	9	5	10	10	34
11.	Mild	10	7	11	7	35
12.	Mild	9	5	12	10	36
13.	Moderate	7	6	12	10	35
14.	Moderate	10	4	12	10	36
15.	Moderate	11	4	12	8	35
16.	Moderate	9	9	12	6	36
17.	Moderate	8	6	10	6	30
18.	Moderate	9	8	6	7	30
19.	Moderate	9	7	9	6	31
20.	Moderate	8	6	12	8	34
21.	Moderate	7	5	10	6	28
22.	Moderate	8	6	11	8	33
23.	Moderate	9	6	12	9	36
24.	Moderate	8	6	11	7	32
25.	Moderate	8	5	14	7	34
26.	Moderate	9	8	12	7	36
27.	Severe	10	10	12	7	39
28.	Severe	10	7	14	9	40
29.	Severe	8	4	14	9	35
30.	Severe	10	3	14	8	35

Table 7. Overall mean scores of BAWS in BSWQ across stuttering severity

Stuttering severity	N	Mean	Standard deviation	Test statistics (One way ANOVA)
Mild	12	31.00	4.023	F (2)=5.606
Moderate	14	33.74	2.673	p=0.00
Severe	4	37.25	2.630	

N, number of BAWS.

Table 8. Bonferroni p value scores across different degrees of stuttering

	α/3	p-value
Mild-Moderate	-2.286	0.265
Moderate-Severe	-3.964	0.128
Mild-Severe	-6.250	0.00

$p<0.05$ shows statistically significant.

Comparison of mean BSWQ scores between BAWNS and BAWS

The overall mean scores of BSWQ were not significantly different between BAWNS and BAWS. However, higher mean scores of overall switching were noticed in BAWNS. The near to equal overall CS in BAWS and BAWNS may be because switching between Kannada and English languages in literate bilinguals is often noticed in Karnataka [53]. The Kannada speaking individuals have abundant English-borrowed words in their linguistic repertoire. Therefore, both groups would

Table 9. Scores of each construct across stuttering severity

	L1 switch tendency			L2 switch tendency			Contextual switching			Unintended switching		
	Mild	Moderate	Severe	Mild	Moderate	Severe	Mild	Moderate	Severe	Mild	Moderate	Severe
Mean	7.16	8.75	9.00	5.33	6.43	3.50	10.33	11.31	14.00	8.16	7.56	8.50
Standard deviation	1.69	1.12	1.41	0.98	1.67	0.10	2.01	1.92	0.00	1.19	1.36	0.70
Test statistics (One-way ANOVA)		F (2)=4.81 p=0.01			F (2)=9.84 p=0.01			F (2)=3.31 p=0.05			F (2)=1.02 p=3.71	

Table 10. Bonferroni p value scores across different degrees of stuttering

	L1 switch		L2 switch		Contextual switch	
	α/3	p-value	α/3	p-value	α/3	p-value
Mild-Moderate	-1.58	0.01	-1.10	0.14	-0.97	0.58
Moderate-Severe	-0.25	1.00	2.93	0.02	-2.68	2.21
Mild-Severe	1.83	2.91	1.83	2.95	-3.66	0.05

$p<0.05$ shows statistically significant.

have identified frequent LS behaviours in their daily life. Another reason could be the higher proficiency of known languages, both groups may possess similar levels of proficiency in each language they speak. When individuals are equally fluent in known languages, they may naturally switch between them [34]. Both the groups had similar proficiency levels across languages (refer Table 1a and 1b). Furthermore, CS often occurs in response to social cues or situational demands. BAWS, regardless of stuttering, may switch languages to accommodate the linguistic preferences of their conversation partner, or to express certain cultural views that are more effectively conveyed in one language over another [50]. Similarly, BAWNS exhibits CS due to social preferences [42]. Here, question 3, 11, and 12 points switching during conversation with another person, and found to have similar scores in BAWS and BAWNS. In addition, the bilinguals (BAWS and BAWNS) typically demonstrate enhanced cognitive flexibility, which allows them to seamlessly switch between languages [28]. This cognitive ability may not always be directly influenced by stuttering and thus CS could remain consistent across both groups. The questions 6 and 8, indicates cognitive control of switching across languages, further, it indicates similar scores between the two groups. However, there is no questionnaire-based study in stuttering literature to support the indistinguishable LS behaviour between bilingual adults who do and do not stutter.

Though the overall switching did not differ between the groups, the results indicate a difference in three out of four switching constructs of BSWQ. The first result includes an increased L1, and L2 tendency switch in BAWNS than BAWS. There has been some discussion in language literature concerning the underlying reasons for the higher frequency of switching behaviour (L1 switch; L2 switch). It is majorly related to linguistic factors (competence and proficiency) [28]. As the current study employed proficient and highly competent speakers (BAWNS) of L1 and L2, this could be one of the factors contribute to higher frequency of L1 and L2 switching tendency. Though the BAWS also had higher proficiency across languages, the fear of negative reactions from listeners may contribute to less frequency of L1 and L2 switching tendency. However, the authors found no supporting evidence in stuttering literature. The additional factors may contribute switching tendency, include socio-pragmatic [49], cognitive [30], semantic [38-40], and socio-psychological, such as social roles, social dominance, message intrinsic considerations (e.g., repetition, or clarification) [42].

Secondly, there was a significantly increased contextual switching noticed in BAWS than BAWNS. It indicates that the BAWS use their switching behaviour in particular situations or environments more than BAWNS. The observation of frequent contextual switching in BAWS could be influenced by several factors. Such as, the fluency variability, social factor, coping strategy, and cognitive flexibility. Kannada-English BAWS may experience variability in stuttering between their languages [16,17]. They might find it easier to express themselves fluently in certain contexts or topics in one language compared to another. Contextual switching allows them to choose the language where they feel more fluent, reducing the likelihood of stuttering. On the other hand, it also relates to the socio-pragmatic factors [42,49]. In response to social

cues or the linguistic preferences of their conversation partners, the BAWS may engage in contextual switching to adapt to the language choices of them. As the stuttering varies across situations, the BAWS may try to cope with dysfluencies using switching behaviours [14,15,50,51,55,56]. In addition, BAWS may find contextual switching less demanding in terms of cognitive resources, thereby reducing the likelihood of stuttering. However, no studies have exclusively focussed on the perception of BAWS in various switching constructs to support the current results.

Results from the fourth construct (unintended switching) indicated that BAWS and BAWNS did not significantly differ. Additionally, it is interesting to note that a specific question regarding the intended use of LS (question number seven) revealed that BAWS used CS more voluntarily than BAWNS. No support for this claim is available from previous stuttering literature. However few studies [14,15,50,56], have shown the use of voluntary CS to avoid dysfluencies whenever BAWS anticipate to stutter or during times of stuttering. On the other hand, it may also depend on the individual choices [41], and environmental needs [43].

In addition, question number seven is one of three items for unintentional CS. Also, the score of it was added to the other two other questions scores (numbers six and eight) to get the total scores of unintentional CS between groups. This brings us to the point of scoring and significant difference. Nevertheless, the total unintentional CS scores did not differ statistically, despite the seventh question's results showing a statistically significant difference. In summary, we hypothesize that the results on the other two questions offset the notable difference observed in question number seven.

Relationship between mean BSWQ scores and stuttering severity

Further, the results of the within-group comparison indicate there was an effect of stuttering severity in LS behaviours. That is, the BAWS with severe stuttering switch languages more frequently than those with mild stuttering severity in overall switching scores and contextual switching. A trend was noticed that as stuttering severity increases, so does the frequency of CS behaviours. Because, the bilingual adults with severe stuttering may frequently tend to reduce the dysfluent utterances than mild, as they have higher dysfluency rate. Furthermore, the dysfluencies vary across person, places, or situations [1]. Therefore, they may frequently use language alternation to eliminate or avoid the dysfluencies across situations. Additional findings indicate that LS increases with stuttering severity, as seen by the higher L1 and L2 switching tendency in the severe group compared to the less severe group. There has been some discussion in the aphasia literature concerning the severe impairment effect on LS [45,48], yet there needs to be a consensus regarding the stuttering severity and LS frequency.

Test re-test reliability

The test re-test reliability was done to ensure the responses' stability. Accordingly, the current results suggest an excellent test re-test reliability for both groups. It indicates that participants are highly consistent with their responses across time. However, this observation was previously addressed only in BAWNS [29].

Limitations

The study has a few limitations. Firstly, it is a preliminary attempt to study CS in stuttering with a questionnaire data without an external speech measure to validate the results, thus it is difficult to make specific conclusions. Another limitation was that the female participants were relatively less represented than males in the present study. It may be due to the lower prevalence of stuttering in females than in males. The study did not involve any qualitative descriptive data from the participants. A clear understanding would exhibit if each BAWS provided a reason for their CS through an interview. Though one of the constructs in BSWQ reveal the intended switching behaviour in BAWS, it is still inconclusive whether voluntary or involuntary to avoid dysfluencies. Furthermore, we relied on stuttering guidelines that have been established for monolingual English speakers, however our participants were bilinguals.

Future directions

It is important to examine the nature, types, and patterns of CS behaviours in BAWS. Furthermore, a self-perceived descriptive data will add on to the reason of intentional switching behaviour in BAWS. Nevertheless, we will awn these limitations with our detailed ongoing quantitative and qualitative investigation on CS and CM behaviours in BAWS.

Additionally, future research should examine the factors that influence CS in multilingual adults who do and do not stutter with differential levels of language proficiency in both languages. The current study studied CS only in Kannada and English (linguistically unrelated languages) speaking BAWS.

However, future studies should focus on investigating the frequency of CS in BAWS who speak related languages, for instance, Kannada and Tamil, because linguistically similar languages may produce more confusion and, thus, more disfluencies than different languages [22]. In the same way, the similarities between languages increase the frequency of code-mixing (CM) and CS in bilinguals [31,32,53]. Therefore, it would be necessary for future research to investigate the frequency of CS, the relationship between CS and dysfluencies, and factors influencing CS in BAWS who speak related languages.

CONCLUSION

Only a handful of existing studies have attempted understanding the CS behaviours in BAWS. The current research note is the first to facilitate understanding of four switching constructs between BAWS and BAWNS. It highlights more tendencies of LS (L1 to L2; L2 to L1) between two languages in BAWNS, but increased contextual switching in BAWS. Further, the current report highlights the intended use of CS behaviours in Kannada-English BAWS with a good sample size. However, the reason for the intended CS to avoid dysfluencies should study further.

Clinical Implications

The CS may hinder the clinician's estimation of stuttering severity and frequency in BAWS. Thus, it is essential to probe every BAWS, whether they do conscious LS to avoid dysfluency, during their fluency assessment. Therefore, it enhances the basic understanding of LS and its purpose in BAWS.

Further, when assessing stuttering severity and frequency in BAWS, it is crucial to identify in both the languages (L1 and L2) with the general guidance to limit voluntary CS. Furthermore, a way to resolve the involvement of switching behaviour, would be to ask the BAWS to speak in one language at a time (L1 or L2) while collecting samples for stuttering assessment, and followed by another language. So that the clinicians can calculate the accurate frequency and severity of stuttering across languages (L1 and L2) in BAWS. Researchers who studied Kannada-English bilingual stutterers also claimed that the frequency and severity of dysfluencies need to be enquired about individually across languages [16,17].

Moreover, the study will help understand the BAWS's self-perceived thoughts about their CS behaviour. Further attempting to use known languages as a communicative strategy to avoid or compensate for the dysfluencies emphasises the understanding of coping behaviours that BAWS accommodates. Additionally, the LS behaviours benefit fluent utterance from the perspective of BAWS. We want to advocate that these avoidance strategies (LS behaviour) may reduce dysfluencies; but do not enhance fluent communication. Furthermore, these avoidance behaviours are unhelpful in the long-term management of stuttering [13].

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REFERENCES

1. Savithri SR. Fluency and its Bases. 1st edition. Newyork: Nova science publishers, Inc; 2020. p. 239-305.
2. Jackson ES, Gerlach H, Rodgers NH, Zebrowski PM. My client knows that he's about to stutter: how can we address stuttering anticipation during therapy with young people who stutter? Semin Speech Lang. 2018;39(4):356-370.
3. Tichenor SE, Yaruss JS. Stuttering as defined by adults who stutter. J Speech, Lang Hear Res. 2019;62(12):4356-4369.
4. Briley PM. An exploration of anticipation of stuttering in adults. J Speech Pathol Ther. 2016;02(1):1-5.
5. Crichton-Smith I. Communicating in the real world: accounts from people who stammer. J Fluency Disord. 2002;27(4):333-352.
6. Plexico LW, Manning WH, Levitt H. Coping responses by adults who stutter: part I. Protecting the self and others. J Fluen Disord. 2009;34(2):87-107.
7. Swartz E, Irani F, Gabel R. Coping with stuttering. Perspect Fluen Fluen Disord. 2014;24(2):58-68.
8. Vanryckeghem M, Brutten GJ, Uddin N, Borsel J Van. A comparative investigation of the speech-associated coping responses reported by adults who do and do not stutter. J Fluency Disord. 2004;29(3):237-250.
9. Guitar B. Stuttering: an integrated approach to its nature and treatment. Wilkins. LW&, editor. 2013.
10. Corcoran JA, Stewart M. Stories of stuttering: a qualitative analysis of interview narratives. J Fluency Disord. 1998;23(4):247-264.
11. Lowe R, Guastella AJ, Chen NTM, Menzies RG, Packman A, O'Brian S, et al. Avoidance of eye gaze by adults who stutter. J Fluency Disord [Internet]. 2012;37(4):263-274.
12. Plexico L, Manning WH, Dilollo A. A phenomenological understanding of successful stuttering management. J Fluency Disord. 2005;30(1):1-22.
13. C W Starkweather. Fluency and Stuttering. 2nd ed. Prentice-Hall; 1987.

14. Medina AM, Pereira T, Muñoz D, Palacios G, Perez V. Fluency strategies of Spanish-English bilinguals who stutter: a thematic analysis. Perspect ASHA Spec Interes Groups. 2019;4(5):1062-1073.
15. Ganesh B. Perceptions and experiences of indian and indian-american multilingual and multicultural adults who stutter. 2022.
16. Maruthy S, Raj N, Geetha MP, Priya CS. Disfluency characteristics of Kannada-English bilingual adults who stutter. J Commun Disord [Internet]. 2015;56:19-28.
17. Kashyap P, Maruthy S. Stuttering frequency and severity in Kannada-English balanced bilingual adults. Clin Linguist Phonetics. 2020;34(3):271-289.
18. Lim VPC, Lincoln M, Chan YH, Onslow M. Stuttering in English-Mandarin bilingual speakers: the influence of language dominance on stuttering severity. J Speech, Lang Hear Res. 2008;51(6): 1522-1537.
19. Lim, Lincoln. Multilingual aspects of fluency disorders. Howell P, Van Vosel J, editor. Bristol: Multilingual Matters; 2011. p. 271-307.
20. Jayaram M. Phonetic influences on stuttering in monolingual and bilingual stutterers. J Commun Disord. 1983;4(16):287-297.
21. Chaudhary C, Maruthy S, Guddattu V, Krishnan G. A systematic review on the role of language-related factors in the manifestation of stuttering in bilinguals. J Fluency Disord [Internet]. 2021;68 (April 2020):105829.
22. Van Borsel J, Maes E, Foulon S. Stuttering and bilingualism: a review. J Fluen Disord [Internet]. 2001;3(26):179-205.
23. Carol Myeres Scotton. Duelling languages-Grammatical structure in code switching. United states: Oxford University Press; Library of congress cataloging in Publication data; 1993. p. 1-19.
24. Mahootian S. Code switching and mixing. Encycl Lang Linguist. 2006;511-527.
25. Poplack S. Sometimes I start a sentence in English y termino en Español. Linguistics. 1980;18:581-618.
26. Muysken P. Bilingual speech. A typology of code-switching. OXFORD: Cambridge University Press; 2000.
27. Das B. C Ode-Switching As a C Ommunicative S Trategy in C Onversation. 2012;3(2):1-20.
28. Ariffin, Rafik-Galea. Code-switching as a communication device in conversation. Lang Soc. 2009;5(9).
29. Rodriguez-Fornells A, Krämer UM, Lorenzo-Seva U, Festman J, Münte TF. Self-assessment of individual differences in language switching. Front Psychol. 2012;3(JAN):1-15.
30. Genesee F, Paradis J, Crago MB. Dual language develop_ment and disorders. In: Baltimore: Paul H, editor. A Handbook on Bilingualism and Second Language Learning. Brookes; 2004.
31. Grosjean F. Life with two languages: an introduction to bilingualism. Harvard University Press.; 1982.
32. Poulisse N, Bongaerts T. First language use in second language production. Appl Linguist. 1994;1(15):36-57.
33. Gollan TH, Ferreira VS. Should I stay or should I switch? A cost-benefit analysis of voluntary language switching in young and aging bilinguals. J Exp Psychol. 2009;34:640-655.
34. Tenés LTS, Volpin L, Grob A, Skoruppa K. Europe PMC Funders Group Language proficiency predictors of code-switching behavior in. 2023;26(5):942-958.
35. Verreyt N, Woumans E, Vandelanotte D, Szmalec A, Duyck W. The influence of language-switching experience on the bilingual executive control advantage. Bilingualism. 2016;19(1):181-190.
36. Ritchie WC, Bhatia T. Social and psychological factors in language mixing. In: Bhatia TK, Ritchie WC, editors. The Handbook of Bilingualism. Oxford: Blackwell Publishing; 2006. p. 336-352.
37. Petitto LA, Katerelos M, Levy BG, Gauna K, Tétreault K, Ferraro V. Bilingual signed and spoken language acquisition from birth: implications for the mechanisms underlying early bilingual language acquisition. J Child Lang. 2001;28(2):453-496.
38. Bowerman M, Choi S. Shaping meanings for language: universal and language-specific in the acquisition of spatial semantic categories. In: Bowerman M, Levinson S, editors. Language Acquisition and Conceptual Development. Cambridge University Press; 2001. p. 475-511.
39. Ameel E, Storms G, Malt BC, Sloman SA. How bilinguals solve the naming problem. J Mem Lang. 2005;53(1):60-80.
40. Francis WS. Bilingual semantic and conceptual representation in: psycholinguistic approaches. In: Kroll JF, De Groot AMB, editors, Handbook of Bilingualism. New York: Oxford University Press; 2005. p. 251-267.
41. Timm L. Spanish-English code switching: el porque y how not to. Roman Philol. 1975;28:473-482.
42. Bhatia TK, Ritchie WC. Social and psychological factors in language mixing. In: Bhatia TK, Ritchie WC, editors. Handbook of Bilingualism. Blackwell Publishing; 2004. p. 336-352.
43. Weston DA. Code-switching variation in Gibraltar. Int J Biling. 2013;17(1):3-22.
44. Itmeizeh M, Mohammad Ahmad Badah A. Factors motivating code-mixing among palestinian bilingual post graduate university students. Int J Adv Res. 2021;9(02):178-186.
45. Goral M, Norvik M, Jensen BU. Variation in language mixing in multilingual aphasia. Clin Linguist Phonetics. 2019;33(10-11):915-929.
46. Si A, Mark Ellison T. Inter-individual differences in Hindi-English code-switching: a quantitative approach. Int J Biling. 2022;(June).
47. Bhat S. Code mixing and Code switching in bilingual aphasics. All India Institute of Speech and Hearing; 2004.
48. Bhat S, Chengappa S. Code switching in normal and aphasic kannada-english bilinguals. Department of Speech Pathology, All India Institute of Speech and Hearing. Manasagangothri, Mysore; 2003.
49. Bhattacharjee M, Rahman N, Chengappa S. Socio-linguistic constraints of code switching in hindi-english-kannada multilinguals. Lang India. 2009;9(12):75-89.
50. Sankar A, Ragupathi N, Daniel KE, Rajashekar. Code switching between languages in multilingual stutters and normals: a compartive study. J Indian Speech Lang Hear Assoc [Internet]. 2004;18.
51. Neeraja R. Code switching in Tamil-English Bilingual persons with stuttering and normal fluency. Manipal University; 2004.
52. Hegde M, Alva D, Oommen SG. Discourse functions of code-

switching among normal Kannada-English and Malayalam- English bilinguals — a pilot study. 1997;14(4):211-216.
53. Thirumalai MS, Chengappa S. Simultaneous acquisition of two languages: an overview. Mysore; 1986.
54. Niharika MK, Suman S, Aishwarya SY, Harshitha HNG. Attitudes towards code-switching among young and middle-aged Kannada-English-speaking adults. J Monolingual Biling Speech [Internet]. 2021;3(2):195-211.
55. Klugman TM. The relationship between fluency, stuttering and code-switching in bilingual adults. In: Unpublished Masters Dissertation, editor. University of Witwatersrand; 2003.
56. Saad S. The use of avoidance behaviors by bilingual lebanese adults who stutter. 2020;(January):0-1.
57. Myers-Scotton C. The matrix language frame model: development and responses. Trends Linguist Stud Monogr. 2001;(126):23-58.
58. Riley GD. SSI-4: Stuttering severity instrument-Fourth Edition. Pro-Ed; 2009.
59. Byrd C, Werle D, Coalson GA, Eggers K. Use of monolingual english guidelines to assess stuttering in bilingual speakers. J Monolingual Biling Speech. 2020;2(1):1-23.
60. Maitreyee R, Goswami SP. Language proficiency questionnaire: an adaptation of LEAP-Q in Indian context. (unpublished dissertation) Mysore: University of Mysore; 2009.
61. Yusoff MSB. ABC of content validation and content validity index calculation. Educ Med J. 2019;11(2):49-54.