ABSTRACT

The purpose of this study was to assess the relation of (non)stuttered disfluencies to parent-report-based measures of emotional reactivity and emotional regulation in young children who stutter (CWS). Participants were 131 preschool-age CWS children (97 boys and 34 girls; ages 3-5). Findings indicated that (1) overall (non)stuttered disfluencies did not significantly differ between CWS with greater versus lesser emotional reactivity nor with greater versus lesser emotional regulation; (2) CWS with greater emotional regulation exhibited significantly greater revisions; and (3) there was no significant correlation between (non)stuttered disfluency type and language ability. Findings were taken to suggest that even though some research have shown that preschoolage CWS are more emotionally reactive and less emotionally regulated than their normally fluent peers, one of the main impact these parent-report-based emotional differences seem to have is on their non-stuttered rather than stuttered speech disfluencies.

INTRODUCTION

The Communication-Emotion (C-E) model (Conture et al., 2006) suggests that temperamental factors may contribute to/exacerbate speech disfluencies in young children who stutter (CWS). Karrass et al. (2006) reported that CWS are significantly more reactive and less able to regulate their emotions compared to their normally fluent peers. However, to date, there have been few empirical studies of emotional reactivity and regulation influence overall as well as individual disfluency types. Thus, there is a need to assess whether these factors (in this case, measured by standardized parent-report questionnaires) are related to CWS' actual speech disfluencies. It was, therefore, the purpose of this study to assess how emotional reactivity and regulation relate to preschool-age CWS' (non)stuttered speech disfluencies.



Relation of (non)stuttered disfluencies to emotional reactivity and regulation in young children who stutter

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METHOD

Participants:

131 (97 boys and 34 girls)

preschool-age CWS, all of whom were native speakers of Standard American English. Participants were between ages of 3;0 and 5;11 (mean, M=4;1, standard deviation, SD=10.2 months).

To be included in the study, CWS had to (a) exhibit three or more stuttering per 100 words of conversational speech based on a 300-word sample and (b) a total overall score of 11 or above on the Stuttering Severity Instrument-3

Procedure:

(SSI-3, Riley, 1994).

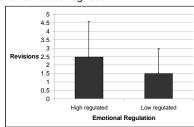
Based on conversational samples, the frequency of each participant's stuttered and non-stuttered disfluencies were assessed. Participants' emotional reactivity and regulation were assessed by a parental-report-based validated test (the Behavioral Style Questionnaire, McDevitt, Carey, 1995) of early childhood temperament. Out of the 110 questionnaire items, 11 items each for emotional reactivity and emotional regulation were selected using procedures developed by Karrass et al. (2006) . Independent samples t-test was performed to assess differences in total disfluency as well as individual disfluency types in relation to emotional reactivity and regulation.

Table 1. Relation of stuttering-like (SLD) and non-stuttered-like disfluencies (NSLD) to emotional reactivity and emotional regulation of preschool-age children who stutter.

	Emotional reactivity		Emotional regulation	
	High reactive (n=36)	Low reactive (n=34)	High regulated (n=33)	Low regulated (n=33)
SLD				
Mean	26.61	32.41	26.97	29.39
SD	18.07	23.84	21.53	17.74
NSLD				
Mean	11.78	10.71	12.82	10.33
SD	6.07	6.16	7.70	6.42

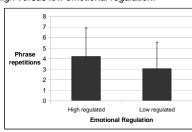
Note. 'High' refers to above 75%ile and 'Low' refers to below 25%ile of the distribution. *Italicized* sig.=marginal; bold sig.=p<.05.

Figure 1. Differences in revision between CWS with high versus low emotional regulation.



Note. Significant difference (t(64)=-2.240, p=.029)

Figure 2. Differences in phrase repetition between CWS with high versus low emotional regulation.



Note. Marginally significant difference (t(64)=-1.780, p=.080)

RESULT

Finding 1:

There was no significant difference in overall SLD nor NSLD frequency between greater emotional reactive versus less emotional reactive CWS, with *p*-values ranging from .254 to .466. Likewise, results indicated no significant difference in either SLD or NSLD between CWS with greater versus lesser emotional regulation, with *p*-value ranging from .159 to .619.

Finding 2:

Children who are highly regulated exhibited significantly greater revisions, t(64)=-2.240, p=.029 as well as marginally significantly greater phrase repetitions, t(64)=-1.780, p=.080 than those exhibiting low regulation.

Finding 3:

There was no significant correlation between each disfluency type and language ability indicated by PPVT, EVT, TELD-receptive, and TELD-expressive score, with *p*-value ranging from .115 to .915.

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DISCUSSION

In general, it seems that parent-report-

based assessment of preschool-age

regulation are not significantly related

to CWS' overall (non)stuttered speech

emotionally regulated CWS do appear

more apt to monitor for/detect errors in

language errors and resulting revisions

help or hinder recovery from stuttering

their speech-language leading to

output. Whether highly regulated

is unknown, but may be worthy of

future empirical exploration.

CWS' "monitoring" for speech-

increased revisions in their spoken

CWS' emotional reactivity and

disfluencies. However, highly

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