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Perspectives about language direction from signed language interpreters in the United States and Switzerland

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Abstract: In the interpreting profession, the term *language direction* (or *directionality)* is used to describe interpreting from one's native, dominant language (L1) into a second, non-dominant language (L2), or vice versa. Language direction has long been of interest to interpreting scholars in regards to the quality of the output. Spoken language interpreter educators have argued that high quality interpretations can only be produced when working from an L2 into an L1 (Nicodemus & Emmorey, 2013; Seleskovitch, 1978). Further, spoken language interpreters have reported a preference for working from their L2 into their L1 (Donovan, 2004). In contrast, signed language interpreters, particularly novices, report the opposite preference for language direction, that is, the majority indicate a preference to work from their L1 into their L2 (Nicodemus & Emmorey, 2013). Researchers have speculated about the factors underlying this direction asymmetry found between signed and spoken language interpreters; however, these speculations were not data based. In this study, we interviewed 20 experienced signed language interpreters in the U.S. and Switzerland to collect perspectives regarding signed language interpreters' preference for L1-to-L2 interpreting. The data point to four factors having an influence on language direction: (a) language modality, (b) self-monitoring, (c) deaf consumers, and (d) psychological states. This study sheds further light on social, linguistic, and psychological factors that impact language direction preferences among signed language interpreters.

Keywords: Directionality; signed language interpreting; ASL-English; DSGS-German

1. Introduction

In the interpreting profession *language direction* (or *directionality*) is used to describe whether interpreters are working from their second language (L2) into their native language (L1), or into the opposite direction (L1-to-L2) (Godijns & Hinderdael, 2005; Kalina, 2005). The impact of language direction on the quality of the interpreted product has been an ongoing topic of debate among practitioners,

educators, and researchers in Translation and Interpreting Studies. In spoken language interpreting, there has been a history of a strong and long-standing bias by educators and practitioners for interpreting from one's L2 into L1, with the view that only this direction can result in high-quality, naturalistic interpretations (Seleskovitch, 1978). In direct contrast, signed language interpreters from various countries have reported a preference for the direction of interpreting from L1-to-L2; for non-native signers that means working from their dominant spoken language (L1) into a signed language (L2). Since both spoken and signed language interpreters perform the same fundamental language task, their asymmetry in preference for language direction is puzzling.

Studies have examined signed language interpreters' preference of language direction (Haug & Audeoud, 2013; Nicodemus & Emmorey, 2013, 2015). These studies support anecdotal reports that signed language interpreters often prefer to work into their non-dominant language (L2), a finding that is particularly strong among novice interpreters. In their papers, the researchers conjectured about the factors that underlie interpreters' preference for working from their L1 into their L2; however, their speculations were based solely on the researchers' opinions and observations. As a result, we collected perspectives from professional signed language interpreters in our respective countries (U.S. and Switzerland) to gather their perspectives on language direction. Given the social, linguistic, and cultural differences between these countries, we also were curious whether differences would be found between the two groups.

We begin with a summary of language direction studies in spoken and signed language interpretation, followed by a brief discussion of the diglossic language environment in Switzerland. We describe our research methods, present the results, and finally, offer discussion about the findings.

2 Background

2.1 Language direction in spoken language interpreting

In the late 1970s, the view that language direction played an integral role in the quality of interpretations was promulgated in the spoken language interpreting profession. First championed by the French interpreter educator Danica Seleskovitch (1978) and her colleague, Marianne Lederer (Seleskovitch & Lederer, 1989), who suggested that interpreting was best performed when working into one's L1. Their perspective, based on monologic, conference interpreting, was grounded in cognitive and psychological studies being done in the 1970s and 1980s, which confirmed that language comprehension precedes production in language acquisition for both child and adult learners (e.g., Clark & Hecht, 1983; Izumi, 2003). Acquisition research revealed that *comprehending* one's second language is easier than *producing* a second language. When applied to interpreting, this led to the perspective that interpreters would produce more nuanced and natural interpretations when working from L2-to-L1. In fact, based on these language acquisition studies and her own intuitions as an interpreter, Seleskovitch (1978) strongly argued that interpreters could only produce high-quality and naturalistic interpretations when working into their L1.

More than 25 years after Seleskovitch, Donovan (2004) supported the bias for interpreters to work into their L1, pointing to factors such as ease of self monitoring, managing culturally-based references (e.g., humor), and reproducing the equivalent register in one's L1. In addition, studies examined spoken language interpreters' preference for language direction when interpreting. Across these studies, respondents expressed a preference for working from their L2 into their L1, further

stating that interpreting into their L1 results in less stress and fatigue (Donovan, 2004, 2005; Lim, 2003, 2005; Martin, 2005). Linguistic studies supported the L2-to-L1 direction bias by showing that spoken language interpreters made less grammatical errors and fewer omissions when interpreting into their L1 (Lee, 2003; Tommola & Helevä, 1998). This finding also held for student interpreters; for example, a study of interpretations produced by Chinese-English interpreting students with various ages of L2 acquisition found that working into their native language had a significant positive effect on fluency (Lin, Lv, & Liang, 2018).

Taken together, these studies make a strong case that superior interpretations are produced when spoken language interpreters are working into their dominant language. Based on such findings, influential organizations such as the International Association of Conference Interpreters (AIIC) began promoting L2 to L1 as the favored direction for simultaneous conference interpreting (Martin, 2005; Pöchhacker, 2004), thereby establishing this working direction as a norm in monologic spoken language interpreting setting.

2.2 Language direction in signed language interpreting

In contrast to the bias for L2-to-L1 direction among spoken language interpreters, studies of signed language interpreters tell a different story. The preference of signed language interpreters' for interpreting from their L1 (spoken language) into their L2 (signed language) has long been anecdotally expressed by interpreters in various language pairs, including English–American Sign Language (ASL) (Nicodemus, 2008), Dutch-Sign Language of the Netherlands (*Nederlandse Gebarentaal*, NGT) (van den Bogaerde, 2010; Crasborn, 2006), and English-Australian Sign Language (Auslan) (Napier, Rohan, & Slatyer, 2005).

In one study of language direction, Haug and Audeoud (2013) conducted telephone interviews with 38 Swiss German signed language interpreters regarding their preference of language direction. The results showed that a majority of the interpreters preferred L1-to-L2 interpreting, explaining that comprehension of the source message in signed language can be difficult. Similarly, a survey study of 1,359 spoken and signed language interpreters done by Nicodemus and Emmorey (2013) confirmed that American Sign Language-English interpreters whose L1 was English overwhelmingly expressed a preference for interpreting into their L2 (ASL), while spoken language interpreters prefer interpreting into their L1. The L2 direction preference was particularly robust among novice signed language interpreters who are least proficient in ASL. Further, novice signed language interpreters reported the belief that they are more proficient when interpreting into their L2, while the majority of spoken language interpreters reported greater proficiency when interpreting into their L1.

In a follow-up experimental study, Nicodemus and Emmorey (2015) examined the quality of interpretations in both language directions as produced by 15 novice and 15 expert ASL-English interpreters. External reviewers evaluated the interpretations based on message accuracy and articulation quality (flow, speed, and prosody). The results revealed that, despite the earlier reports of novice interpreters feeling more proficient in their L2 (ASL), novices actually *underperformed* when working into their L2. In contrast, experienced signed language interpreters did not show a significant difference in their preference for language direction, nor did their interpreting performance show significant contrast in either language direction.

Other studies of language direction performance in signed language interpreters examined various aspects of the performance. Wang and Napier (2015) investigated the effects of language direction on the simultaneous interpreting

performance of two groups of highly experienced English-Auslan interpreters, specifically to assess directionality effects between native signers (N = 14) and non-native signers (N = 17). The results revealed no significant differences in interpreting performance between the groups in either language direction, suggesting that being highly bilingual mitigates the effects of working into either a dominant or non-dominant language.

A study by van Dijk, Boers, Christoffels, and Hermans (2011) of 25 experienced Dutch-Sign Language of the Netherlands (NGT) interpreters yielded similar findings to Wang and Napier. The participants interpreted narratives under three direction conditions: (a) spoken Dutch to NGT, (b) spoken Dutch to Sign Supported Dutch (SSD), and (c) NGT to spoken Dutch. The interpretations were assessed by the propositional accuracy of the target message and a subjective measure of quality. In contrast to Nicodemus and Emmorey's (2015) study of directionality performance, van Dyke et al (2011) found interpretations from NGT-to-Dutch were of *lower* quality (on both measures) than in the other two directions. Furthermore, interpreters who had acquired NGT as adults performed as well in all three interpreting directions as the interpreters who had acquired NGT from birth, a finding that corroborates the Wang and Napier (2015) study.

Taken together, the studies reveal the general preference among signed language interpreters for working into their L2 (when it is a signed language); however, the data on the performance effects in language direction yield mixed results. This variability in performance is perhaps not surprising given the studies utilized different methodologies and materials. Replication studies with consistent approaches using different language pairs are needed to further examine the effect of language direction on interpretation quality.

2.3 Speculations about the influences underlying signed language interpreters' preference for L1-to-L2

Researchers have speculated about the causal factors underlying the preference of many signed language interpreters, particularly novices, for working into their L2. Haug and Audeoud (2013) hypothesized four potential factors that may influence the directionality preference of interpreters: (a) familiarity with the deaf consumer and setting, (b) impact of negative experiences on prior assignments (i.e., developing a 'negative spiral' of fear about interpreting for deaf consumers), (c) contextual factors of assignment (e.g., environmental set up, lighting, acoustics), and (d) background of the deaf consumers (e.g., education, signing style, age, experience). Nicodemus and Emmorey (2013) hypothesized six factors as being influential on the L2 direction preference: (a) training and work experience (i.e., signed language interpreters may receive significantly more hours of training and working from a spoken language into a signed language); (b) fingerspelling (i.e., comprehending and producing fingerspelling); (c) transcoding (i.e., the ability to put signs in a spoken language grammatical structure); (d) comprehension of signed language input (i.e., understanding the deaf consumers' message); (e) tolerance by deaf consumers (i.e., deaf consumers may be accustomed to accepting weak signed language production by signed language interpreters); and finally, (f) self-monitoring (i.e., the ability to actively monitor one's own linguistic output).

To support – or reject – their earlier hypotheses about the factors influencing the language direction preference among signed language interpreters, Nicodemus and Haug collaborated to design the present study with the aim of collecting perspectives about language direction in interpreting from signed language interpreters in their home countries.

2.4 A comparison of spoken language interpreters in Switzerland and the U.S.

Before proceeding, it is important to mention the linguistic context of the two participant groups in this study. Switzerland has four national (spoken) languages: Rhaeto-Romance, French, Italian, and German, with the largest group (64%) being German speakers (Werlen, 2004). A unique feature of German-speaking Switzerland exists is its diglossic context (Petkova, 2012; Werlen, 2004), in which speakers use related varieties of a language for different functions (Haas, 2004). In the German-speaking diglossic context, both Standard or High German (and its Swiss form) and Swiss German are used. Swiss German is often used as an umbrella term for local/regional dialects (Werlen, 2004). Standard German, learned via formal education, is used primarily for writing and formal speech, "but is not used by any sector of the community for ordinary conversation" (Ferguson, 1959, p. 336). Standard German is most frequently used for writing in education and professional contexts, while Swiss German is more often used in less formal contexts (e.g., among family, friends) (Werlen, 2004).

Table 1: Summary of language environment in Switzerland and the U.S.

Country	**Total pop.**	**Spoken language(s)**	**Estimated number of deaf signed language users**	**Majority signed language(s)**	**Signed language interpreter training**	**Number of signed language interpreters**
Switzerland	8.5 million	German, French, Italian, Rhaeto-Romance*	German-speaking part of Switzerland: 5,500 French-speaking part of Switzerland: 1,700 Italian-speaking part of Switzerland: 300	Swiss German Sign Language (DSGS), French Sign Language (LSF), and Italian Sign Language (LIS)	One 4-year part-time bachelor program in German Switzerland at HfH^ Zurich	DSGS-German: ~70 LSF French: ~30 LIS-Italian: ~10
United States	327 million	English: 78%, Spanish: 13%, Other: 8%	Between 250,000-500,000	American Sign Language (ASL)	Approx. 140 training programs at associate, bachelor and master level	ASL-English: ~8,500 certified interpreters

**Term used to describe traditional subfamily of the Romance languages spoken in north/northeastern Italy and Switzerland.*
^HfH: University of Teacher Education in Special Needs in Zurich, Switzerland

In contrast, while the United States has no official language, the overwhelming majority of citizens (78%) speak English (Dietrich & Hernandez, 2022). The total of all other languages used in the U.S. represent only 21 percent of the population. Further, unlike Switzerland, which borders five countries, the U.S. shares a border with only one non-English-speaking country, Mexico, and immigration laws limit the number of Mexican migrants. These conditions result in the U.S. being a highly monolingual environment in which spoken English is dominant. Further details about the language environments of Switzerland and the U.S. are provided in Table 1 above.

3. Methodology

3.1 Participants

Two groups of signed language interpreters participated in this study – ASL-English interpreters (N = 10) and Swiss German Sign Language (*Deutschschweizerische Gebärdensprache*, DSGS)-German interpreters (N = 10). The participants were recruited through the researchers' personal contacts and were not compensated for involvement in the study. Interpreters who met the following criteria were recruited for the study:

a) Currently work as a professional signed language interpreter (20 hours or more per week);
b) Have five or more years of full-time, professional interpreting experience;
c) Did not acquire signed language at birth;
d) Be age 30 or older; and
e) Have experience with interpreting in a variety of settings.

Of the 20 interpreters who participated in the study, 18 were female, one was male, and one did not provide gender information. All participants reported spoken English or Swiss German, respectively, as their native language. The average age of the participants was 47 years old (M = 47.35, range = 31-68, SD = 11.27). On average, the participants acquired a signed language by age 19.6 (M = 19.60, range = 6-31, SD = 6.88), with the U.S. participants acquiring as signed language at a slightly younger age (M = 17.50, range = 6-29, SD = 8.51) than the Swiss participants (M = 21.7, range = 17-31, SD = 4.21). The participants had worked as professional interpreters on average for 17.25 years (M = 17.25, range = 5-41, SD = 11.43). The U.S. participants had worked more years as signed language interpreters (M = 23.8, range = 10-41, SD = 10.45) in comparison with the Swiss participants (M = 10.7, range = 5-27, SD = 8.43).

The researchers strived to create a balanced demographic sample between the Switzerland (only the German-speaking part) and U.S. participants; however, due to language conditions and differences between Switzerland and the U.S., the groups had minor differences in gender, education, certification, and language profiles. Most notably, none of the ASL-English interpreters had multilingual skills; in contrast, all of the DSGS-German interpreters held multilingual capabilities as well as training and work experience in diglossic situations as described earlier in the paper (i.e., High German in more formal contexts; Swiss German dialects in less formal contexts). Further, the DSGS-German interpreters occasionally worked in settings in which another spoken language (e.g., French, Italian) or signed language (French or Italian Sign Language) was in use.

3.2 Interview and rating protocol

Table 2: Potential factors influencing signed language interpreters' L1-to-L2 directionality preference.

#	Factors	Description	Prior Studies*
1	Training and Work	The amount of training received by interpreting students in each language direction and the prevalence of interpreting work in each language direction.	N & E
2	Fingerspelling Production and Perception	The ability of interpreters to fingerspell words in instances of a lexical gap or when they do not know a specific sign; the ability of interpreters to comprehend fingerspelling.	N & E
3	Transcoding	The ability of signed language interpreters to put signed language into spoken language grammatical order.	N & E
4	Comprehension	Interpreters' ability to comprehend the signed language source message.	N & E
5	Deaf Consumers	Deaf consumers' level of tolerance for signed language interpretations.	N & E
6	Self-Monitoring	Interpreters' ability to self-monitor their signed language production vs. their spoken language production.	N & E
7	Familiarity and Alliance	Interpreters' sense of familiarity, connection, and alliance with the deaf community and setting.	H & A
8	Negative Self Talk	Interpreters' negative inner dialogue about job performance, consumers' reactions, and other assignment factors.	H & A
9	Diversity of Consumers	Language diversity among signers, e.g., level of education, language background, type of education.	H & A
10	Negative Spiral	The sensation interpreters may experience after a poor performance when working from signed into spoken language, and that results in developing a negative spiral of fear about interpreting for deaf consumers in future assignments.	H & A
11	Visual Connection	The ability of interpreters to make a visual connection with deaf people while interpreting, that is, when interpreting from signed language into spoken language, interpreters must look directly at the signers. Conversely, interpreters rarely make eye contact with the non-deaf consumers of the interpretation, which may lead to a sense of disconnection.	Not discussed in N & E or H & A; Suggested by a participant

** Note: "N & E" represents Nicodemus & Emmorey (2013); "H & A" represents Haug & Audeoud (2013).*

The interview protocol consisted of pre-established question prompts (U.S. = 8; Switzerland = 9). Three questions dealt with the participants' own preferred language direction when interpreting (Q1-3), three questions focused on the preferred language direction of other interpreters (Q4-6), one question was on the meaning of balanced linguistic proficiency (Q7), and one question was about how the participants hone their linguistic skills for interpreting (Q8). The Swiss interview protocol also included a question asking if language direction into spoken language may be influenced by a variety of German, e.g., a Swiss German dialect (the participants' L1) and High German. The final interview question (Q9) instructed participants to rate the relative influence of 11 factors on the L2 language direction preference among signed language interpreters. Ten of the factors were based on speculations in prior studies (Haug & Audeoud, 2013; Nicodemus & Emmorey, 2015) and one factor was suggested in conversation with an interpreter. The factors are given in Table 2 above.

3.3 Procedures

Each participant completed a Consent to Participate Form and a Demographic Form. To ensure uniformity, the researchers read a prepared script with a brief description of the study and instructions. The researchers conducted the interviews individually, either in person or via video conferencing software. The U.S. interviews were conducted in English and video recorded via the video conferencing software; the Swiss interviews were conducted in Swiss German (interviewee) and High German (interviewer) and were audio-recorded on a smartphone.

3.4 Analysis

To create written transcripts of the recorded interviews, the U.S.-based researcher employed a transcription company, while the researcher in Switzerland personally transcribed and translated the audio recordings into English. The transcript data was analyzed using the software NVivo. First, reflective notes on the transcripts were documented through the use of extensive memos. The transcripts were then reviewed line-by-line to generate an expansive list of preliminary in vivo and *a priori* codes. The research team engaged in focused coding, during which emergent codes were integrated into axes and sub-codes, which were formed to capture new themes and articulate thematic relationships. The research team established inter-coder reliability by reviewing the codes individually and as a group, defining each code, and developing inclusion and exclusion criteria with examples for each code. Final codes and overarching themes were categorized, reviewed, and reconfirmed by the research team.

4. Results

We begin with a brief discussion about the results of the rating done by participants on Question 9 of the interview protocol (See Appendix). Unfortunately, the quantitative data did not yield any clear patterns between the participants or factors. Participants' ratings of the 11 factors (see Table 2) were highly inconsistent, i.e., the factors received a wide range of ratings between 1 (Not at all influential) and 6 (Highly influential). Further, the researchers found that the task of assigning a numerical rating for the influential factors was challenging for the participants, who did not express confidence in their responses during the interview. The results might

also reflect the participants' backgrounds as individuals with different life experiences. As a result, the data did not yield meaningful quantitative results, which is discussed further in the limitations section of this paper.

For the qualitative data, we present the four primary themes that emerged in the data regarding the question of what influences signed language interpreters' preference to work into their L2. The four themes found in the data include (1) language modality, (2) self-monitoring, (3) deaf consumers, and (4) psychological factors, specifically ego and fear. In the following subsections, we describe each theme, provide illustrative excerpts from the data, and offer commentary to frame the results.

4.1 Influence of language modality

The participants identified *language modality* as being an influential factor that impacts signed language interpreters' stated preference for working into their L2 (a signed language). Spoken language interpreters are *unimodal,* that is, both of their working languages are produced in the same modality (spoken-spoken). In contrast, signed language interpreters are *bimodal*, in that their working languages are produced in different modalities (spoken-signed). The participants discussed how this modality difference between languages could affect interpreters' perception about their work, particularly citing two critical modality factors, that of *fingerspelling* and *transcoding*.

As discussed by Nicodemus and Emmorey (2015), the manual modality of signed languages allows interpreters to employ certain interpreting strategies that are not possible in unimodal interpreting. For example, if sign language interpreters encounter an unfamiliar word for which either they do not know how to express in sign (or there is no standard corresponding sign), they are able to use a default strategy of fingerspelling the word. This strategy provides an "escape route" of sorts by allowing interpreters to express unfamiliar concepts from the spoken language by merely spelling it out using the manual alphabet. A Swiss participant succinctly spoke to this default strategy in excerpt 1.

> (1) What do you do when you don't know a sign? Well, just use fingerspelling! (CH06)

To a certain extent, in the U.S., interpreters' use of fingerspelling as a compensatory strategy has been accepted by deaf consumers, perhaps because deaf consumers are almost always bilingual in signed language as well as the written form of the majority language. However, the strategy of fingerspelling in Switzerland is somewhat different since fingerspelling is used far less frequently in Swiss German Sign Language than in ASL. In excerpt 2, a Swiss participant noted this difference in fingerspelling usage:

> (2) Generally, I think it is a bad strategy to use fingerspelling when interpreting in the Swiss context since fingerspelling has less relevance in DSGS than in ASL. There is always the question of whether the deaf consumers even understand fingerspelling here in Switzerland, since it is so rarely used in our country. (CH02)

Critically, the act of defaulting to fingerspelling to "interpret" a word into a signed language does not have an equivalent dodge when interpreting in the opposite language direction. That is, if a deaf consumer produces a sign that is unknown to an interpreter, there is no evasion strategy for representing the unknown sign into spoken language. As a result, an interpreter's spoken language interpretation can easily break down. Thus, interpreters may prefer to work into a

signed language because they can always default to fingerspelling when a sign equivalent is unknown.

Furthermore, comprehending fingerspelling is notoriously difficult for interpreters, particularly for novice interpreters. This difficulty is evidenced by the number of courses, workshops, and video tutorials devoted specifically to the improvement of fingerspelling reception. The challenge of understanding deaf consumers' fingerspelling is discussed in excerpts 3-5.

> (3) Personally I spend time working on my interpreting skills up by watching videos of deaf signers, particularly for how and what they fingerspell, how they use fingerspelling for emphasis, nouns, proper names, etcetera. (US08)

> (4) Fingerspelling is always hard to understand. When a deaf client fingerspells something, I definitely feel pressure to get it right, which is stressful for me. (CH02)

> (5) It can be challenging to comprehend fingerspelling, especially if a deaf person suddenly throws in a fingerspelled word without warning. (CH06)

Taken together, these data suggest that fingerspelling *decreases* the difficulty of interpreting from a spoken language into a signed language, and *increases* the difficulty of interpreting in the opposite language direction. This difference in perceived difficulty may lead to interpreters' preference for working into their L2 (a signed language) and also inflate their perceptions about their proficiency when working into a signed language.

The manual modality of signed languages also creates a situation in which interpreters can *transcode*, that is, produce signs following the grammatical structure of a spoken language. Transcoding can result in a sign-for-word translation without incorporating signed language morphology or syntactic markers, and typically resulting in ungrammatical constructions in the signed language. Both the U.S. and Swiss participants described the use of transcoding (or *transliterating*) in excerpts 6-11.

> (6) If an interpreter can't ask for clarification she might switch into a more German-like signed language structure. (CH05)

> (7) I was always comfortable when working in the transliterating mode, but to work more solidly into ASL, that took several more years to build up my confidence. (US01)

> (8) I wonder sometimes, 'Do I really know ASL?' Because some people will say, 'that interpreter is not ASL enough,' or 'that interpreter is more on the [trans]coding side of the spectrum.' (US08)

> (9) ASL is definitely my a second language, so I still have these things where it's like, 'I know there's a lovely way to say this [in ASL], but I sure don't know it.' (US06)

> (10) I think interpreters engage in transcoding without even realizing it. (CH02)

> (11) If I don't know exactly how to sign something, I can simply sign following German word order or use more German mouthing. (CH11)

These comments indicate that interpreters may frequently transcode as their work, which provides them with another evasion strategy. Ironically, transcoding may have a degree of acceptance among deaf consumers depending on their linguistic and educational background. In the U.S., "English-like" signing

historically has been regarded as being superior or more erudite than the signing used in everyday interactions within the Deaf community, a language ideology that has been promoted by hearing signers (Padden & Humphries, 1988).

Interestingly, two Swiss participants referred to transcoding as a form of "cheating" during interpreting, as shown in excerpts 12-13.

> (12) It is easier to cheat when working from a spoken language into a signed language because you can use some form of Pidgin Signed German, which might be accepted by the deaf customer and, as a result, feel good to the interpreter. (CH02)

> (13) Interpreters can cheat when working into a signed language. They can produce something that is *mauscheln* (English translation - a way to bypass the system). Transcoding could definitely be the reason why so many interpreters think it is easier to work into a signed language. (CH04)

Another influence for perpetuating the practice of transcoding is that deaf consumers may feel they have no choice in the quality of the interpretation that they receive (Haug et al., 2017) or are simply more tolerant of the interpretation based on their experiences (Nicodemus & Emmorey, 2013). As a result, although transcoding may not result in effective interpretations for deaf consumers, it frequently occurs in signed language interpretation. In contrast, when interpreting from signed language into a spoken language, transcoding may be regarded as unacceptable by hearing consumers because the resulting output is ungrammatical and sounds like 'broken' language. Hearing consumers may view disfluent spoken language in a more negative light than their deaf counterparts. The hearing interpreter may also be chagrined upon hearing her own ungrammatical spoken language production.

In summary, fingerspelling and transcoding are interpreting "default strategies" that exploit modality factors in signed language interpreting. These strategies are either impossible (fingerspelling) or are regarded as ungrammatical (transcoding) when interpreting into a spoken language. The participants' comments repeatedly commented on the "tricks" of fingerspelling and transcoding that interpreters use to bypass the use of signed language structures. As such, the results suggest that modality differences are seen as influencing interpreters' preference for L1-to-L2 interpreting, when L2 is a signed language.

4.2 Influence of self-monitoring

Another factor that participants suggested as influencing signed language interpreters' preference for working from L1 into L2 is related to their ability to *self-monitor* their language output. Postma (2000) argues for a perception-based auditory monitoring system during spoken language production. Thus, hearing interpreters will monitor their vocal output when working into their L1 when it is a spoken language. Critically, they are able to detect and self-correct errors in the interpreted output. However, this perception monitor is innately different when producing (or interpreting into) their L2, when it is a signed language. That is, when working into a signed language, interpreters are unable to experience direct visual feedback about their language output. During signed language production, interpreters cannot directly monitor their signed language production in the same way as the deaf consumer. Self-produced signs are perceived in the periphery of vision, with a view of the back of the hands, and with an inability to see one's own face (Emmorey et al., 2009). In fact, one study suggests that signers do not visually monitor their output for signed errors at all, but rather, rely on somatosensory (i.e.,

touch or tactile) feedback to detect mistakes in their language production (Emmorey, Korpics & Petronio, 2009). Another study confirms that auditory feedback appears to play a larger role in catching speech errors than visual feedback does for monitoring signed errors (Emmorey, Bosworth & Kraljic 2009).

A U.S. participant described the experience of self-monitoring in excerpt 14.

> (14) When you're producing a message in American Sign Language, you believe that it's all coming out clearly and that every thought going through your head actually makes it off your hands. But you don't have any way of really monitoring that. I mean, you sort of see what's happening, but you're not really seeing it as a consumer. Whereas when you're working into English you are hearing that [output], so the monitoring process is clear to you, as well as to the people around you. You can hear your mistakes. You can hear your faltering. You can you're your disfluencies, and so on. You can hear all that and it gets into this kind of monitoring loop. (US09)

Thus, signed language interpreters are unable to monitor their signed language output as successfully as their spoken language output. Novice signers may be particularly ill equipped to detect their signed errors because of being less fluent in signed language because they have not yet developed the ability to monitor somatosensory feedback; however, whether self-monitoring develops with experience requires further study. A further complication is that monitoring auditory feedback when interpreting into a spoken language may interfere with the interpreters' simultaneous formulation of their output, whereas the visual feedback of a signed language may cause little or no interference when formulating a signed interpretation. As a result, interpreters may continue to produce signs without the same degree of awareness of errors that auditory monitoring affords.

The inability to self-monitor in a signed language as well as lack of interference may explain interpreters' perception that their signed language interpretations are superior to their spoken language interpretations. Indeed, the participants in this study support that influence of self-monitoring for favoring L2 interpreting. In excerpts 15 and 16, participants spoke of the lack of awareness by signed language interpreters when working into a signed language.

> (15) When you're interpreting into ASL, you are blissfully unaware of your errors. I'm sure the errors are just as plentiful [as in spoken English], but you simply don't notice them. (US09)

> (16) It's more obvious when I make a mistake, need to wait, or hesitate when I'm working into a spoken language than when I'm working into a signed language. (CH09)

In excerpt 17, a U.S. participant discussed the false sense of security that adult learners of a signed language have when they have begun to feel more fluent in sign, despite a lack of a feedback loop.

> (17) I think that we interpreters who acquire ASL as a second language, after six or so years under our belts, think we know how to express most things in sign language. But we don't have the same feedback loop. We just assume that our interpretation is fine. I think that's one reason why [interpreters prefer to work in signed languages]. (US05)

Three Swiss participants recognized issues with monitoring and evaluating their own interpreting when working in their L1 (Swiss German) versus their L2 (Swiss German Sign Language – DSGS) in excerpts 18-20.

(18) I can control the output in my spoken language, my mother tongue. I can check the final product much better than when I'm interpreting into Deutschschweizerische Gebärdensprache (DSGS). (CH04)

(19) I have higher expectations when I'm interpreting into my native language [spoken Swiss German] because I can hear myself as I interpret. (CH04)

(20) I would not say that I'm more competent working into a spoken language than into signed language. I think it is really difficult to judge since signed language is not my mother tongue, but I *can* evaluate what is correct and incorrect in my spoken language output. I can't evaluate my signed language output at the same level. (CH08)

In excerpts 21-23, U.S. participants pointed to the lack of a feedback loop when working into ASL, how the deaf consumer suffers the consequences of errors due to a lack of interpreters' self-monitoring, and the fear of hearing one's own voice when working into English.

(21) As far as interpreting into ASL, it's interesting because we don't have the same checks in the system. So when I'm interpreting from ASL into English, hearing participants act as a check for us. If I don't make sense, they know I'm not making sense. This is different if I'm interpreting from English into ASL where I only have one consumer who can act as my feedback loop and can fill in the gap if the production isn't sufficient. (US04)

(22) Having the English be the most comfortable information coming in means having the least self-monitoring going out, you know? It's safer, although not so beneficial for the deaf client. But yeah, in all honesty, that's how it is. (US07)

(23) I've felt my security in the spoken to sign direction because it is safe. Less people have access to your production. Less people know if you made a mistake. Less people know when you aren't clear. When going from sign to spoken language, it is much more recognizable when it works and when it doesn't work. There is definitely a fear factor. (US10)

Thus, the participants pointed repeatedly to the role of self-monitoring as being a highly influential factor in explaining the preference of signed language interpreters to work into their L2, a signed language. They repeatedly commented on the inability of interpreters to monitor, identify and, critically, to correct their production errors when working into a signed language.

4.3 Influence of deaf consumers

A third influence on directionality that was frequently mentioned by the participants was that of the tolerance of *deaf consumers* for the interpreted output. The participants suggested that deaf consumers put up with errors in interpreters' signed language production to a much greater degree as compared to hearing consumers' acceptance of errors in spoken language. This tolerance dichotomy may influence interpreters' preference for interpreting into signed language. In excerpt 24, a Swiss participant suggested this disjunction may be the result of having only one deaf consumer in an interpreted setting who is reticent to give feedback to the interpreter.

(24) When I am interpreting from spoken language into signed language, it's rare for deaf consumers to provide feedback when I make grammatical mistakes. It may be that

> they don't have the linguistic foundation to give a critique. It also could be that there is only one deaf person in the interpreted setting. (CH10)

Other participants noted that limited feedback from deaf consumers may stem from them being resigned to a lower quality of work, or feeling gratitude for the provision of any interpreting services at all as expressed in excerpts 25-28.

> (25) Deaf people are experts at doing all the translation and figuring out what we've signed. They don't want to bother with interrupting us and saying, 'You're not clear.' (US05)

> (26) I think that deaf people automatically try to fill the gaps in the interpretation because they are used to doing it. Maybe deaf people also have given up on the hope that they can ever get a competent sign language interpreter. (CH01)

> (27) I've talked to so many deaf people who have had awful interpreting experiences. Once a deaf consumer told me that he tried to express his dissatisfaction to the person in charge, but the interpreter didn't interpret the comment. Their life experiences have shown them that asking for what you deserve is not necessarily going to result in getting what you want. As a result, interpreters don't get the feedback that they're not making sense, so they think they're fine. (US05)

> (28) There are deaf consumers who are uncritical, and just happy that there is a sign language interpreter. They don't bother about the quality of the interpretation. (CH04)

One participant also expressed a preference to interpret into a spoken language only when having background knowledge of the interpreted situation or if they have a prior relationship with the deaf consumer, as seen in excerpt 29.

> (29) Another factor might be not only knowing the deaf person, but also having contextual knowledge. If I know the deaf person and what to expect in the setting, I am very happy to interpret from a signed language into spoken language. (CH10)

Finally, as experienced practitioners, two U.S. participants related their preference to work into spoken language, only to better represent the deaf consumer better than other interpreters may, a concern that is expressed in excerpts 30-31.

> (30) Often, I prefer to interpret into spoken language, because I can anticipate the low level of work that will be produced by my team. I never thought about it as a preference of direction until just now, but it really was, partially, my own insecurity with what and how my team was going to produce an English interpretation. I admit this is a judgment on my part, but it is a valid concern because for deaf professionals their expectation is to be presented in a certain light. (US10)

> (31) I don't want to say that one consumer has more weight in my mind than the other. I just have seen a lot of interpreters struggle when working from ASL into English. Maybe the representation of both deaf and hearing consumers isn't there in either direction. I'm not sure. (US03)

In sum, many of the participants cited the influence of deaf consumers, particularly their lack of critique of signing, as impacting directionality preference. Further, interpreters were more likely to work into spoken language if they had a prior relationship with the deaf consumer and the situation context, felt more able than their team to provide an accurate representation of the deaf person's comments,

and felt more strongly aligned with the deaf consumer's right to representation over the needs of the teaming relationship.

4.4 Influence of psychological factors – ego and fear

Finally, the participants pointed to *psychological factors,* specifically ego and fear*,* as being influential on interpreters' preference for working into a signed language. In this paper, we define *ego* as a person's sense of self and self-worth, which can develop into egotism or inflated self-importance; and *fear* is defined as a powerful and distressing emotion aroused by impending loss or pain, whether real or imagined. The participants frequently mentioned these two psychological states as driving interpreters' relationship to language direction.

Ego was a strong recurring theme among the participants from both countries. Participants commented repeatedly about interpreters' preference to work into a signed language due to their desire to be in the "spotlight." Excerpts 32-39 provide examples.

> (32) I think that many interpreters like to showcase themselves as signers. Do interpreters ever put up a YouTube video of them speaking English? Never! It's always about their signing, so it has this 'show-off factor.' (US10)

> (33) When you interpret for a deaf audience, you get more recognition for your work because everyone sees you, as compared to when you sit in the first row of a large deaf event and interpret into spoken language. (CH02)

> (34) Interpreters like to perform and feel they are accomplishing something when working into ASL, but not so much when working into English. Interpreters get a lot of praise for signing, but very little praise for voicing. (US06)

> (35) Interpreters lack advanced vocabulary in English and vocal confidence. Frankly they also like being in the spotlight. (US09)

> (36) Some interpreters enjoy being visible and taking assignments where they can be seen on stage. (CH01)

> (37) When working into ASL, interpreters can sort of make it up. They like to play with *pretty signs* (participant's emphasis). They want all eyes on them. They seem to like being in front of the room. (US08)

> (38) I've observed that interpreters love getting feedback from deaf consumers about how *amazing* (participant's emphasis) they are. (US04)

> (39) I think for some interpreters it [working into ASL] is ego-based. People are looking at them and think they're cool because they can be in the spotlight. It might be feeding some internal need for attention. When you're on the microphone, you're not seen at all. So yes, I think ego is part of it [the preference for ASL interpreting]. And some people love the comments like, 'You're so wonderful!' because they're getting their ego stroked. (US03)

The participants also frequently mentioned fear as a psychological deterrent for working into spoken language, in particular dreading the possibility of having their ego deflated. When interpreting into a spoken language, interpreters fear failure because the interpretation is more widely heard and may be critiqued, including self-criticism. This fear can result in anxiety and avoidance of doing spoken language interpreting work. The Swiss participants also described that

interpreters have qualms about damage to their reputation after only one poor performance, especially on high-profile assignments, which contributes to avoidance of working into a spoken language. A sample of comments about fear are given in excerpts 40-43.

> (40) Going from ASL to English is much more noticeable within most environments that interpreters work in. It is the side of the work that you could actually be found out to be an imposter, a fraud. (US10)

> (41) If you have a bad experience voicing in one setting, it can influence whether you take on the same kind of assignment again. (CH05)

> (42) A good reputation is very important in signed language interpreting. In Switzerland, we do not have a *Fehlerkultur* (English translation – a culture in which it is acceptable to learn through mistakes). When you make a mistake in Switzerland, you might not get a second chance, or you feel you need to be perfect on the next assignment. (CH01)

> (43) Sometimes interpreters might be afraid in taking on assignments that require interpreting into a spoken language because they might damage their reputation and they will end up on deaf consumers' blacklist. (CH09)

Participants mentioned the need to conquer fear or combat the negative effects of fear when accepting assignments into spoken language, as found in excerpts 44-45:

> (44) Two of my colleagues really love working from ASL to English. Having conversations with them about why and how did they get to that level helped to kind of push me to a point where I thought, 'You know what, I shouldn't be so afraid.' It's just that when you think about it in that more formal setting, when you think about a deaf presenter coming in, you start building up all these old resistances. You kind of psych yourself out before you even start. For [my colleagues] it's the opposite. They have the nerve and they build that resistance when they know they have to do more of this. (US10)

> (45) When I began working as a signed language interpreter, I was afraid of interpreting into Swiss German. But after a while, there was this one assignment where I was in the total flow of interpreting in that direction. This was the moment where I was saying to myself 'Yes! You can do it.' (CH10)

Taken together, the participants point to psychological factors as playing a significant role in interpreters' preference for working into a signed rather than spoken language. Notably it was participants' desire to prevent negative outcomes and negative influences on their reputation that guided their decision making in accepting or avoiding spoken language work. The influence of fear was hypothesized by Haug and Audeoud (2013) who speculated the insecurity and 'negative spiral' that individuals can experience, that is, having one negative experience with voicing can trigger feelings of fear that lasts until the next interpreting assignment or beyond. This fear spiral can result in negative self-talk and, ultimately, a self-fulfilling prophecy, which results in a cycle of errors.

5. Discussion

We collected observations from experienced signed language interpreters regarding

the preference of interpreters to work from their L1 (a spoken language) into their L2 (a signed language), a direction preference that is in direct contrast to that of spoken language interpreters. In prior studies, we had postulated 13 potential influences on this asymmetry in language direction preference between signed and spoken language interpreters (See Table 2).

The four influences for the preference for L1-to-L2 interpreting found in this study included: (1) language modality, (2) self-monitoring, (3) deaf consumers, and (4) psychological states. At first glance, the four influences do not appear to corroborate the 11 factors from earlier speculations (see Table 2); however, upon closer examination, all but three of the original factors in prior studies were included in the thematic categories of this study. In the study, the participants' comments were categorized into large themes, which encompassed the more specific factors made in earlier speculations. For example, the first theme in this study, the influence of *language modality*, was categorized based on comments that were reflected in our original list concerning Fingerspelling Production and Transcoding. The second thematic category, *self-monitoring,* cited by the participants as influencing the L1-to-L2 direction preference, was also found in the original list of influential factors (See Table 2). The third influence observed by participants was that of *deaf consumers*, a broad category that supported specific factors cited in the original list, including Comprehension, Deaf Consumers, Familiarity and Alliance, and Diversity of Consumers. Interestingly, study participants from both countries mentioned the non-standardized nature of ASL and DSGS (as compared to their working spoken languages) and that this non-standard language use by deaf consumers might influence interpreting preference. Finally, the participants repeatedly mentioned the influence of *psychological factors* in this study, which corroborated earlier speculations about Negative Self-Talk and Negative Spiral (See a comparison of influences in Table 3).

For the most part then, the data from this study supported our earlier speculations about the factors that influence signed language interpreters' preference for working into their L2, when it is a signed language. However, two factors that were postulated as possible influences in earlier speculations – (a) Training and Work, and (b) Visual Connection – were not found in this study. That is, the participants did not regard as significant the amount of training received by interpreting students, nor did they regard the amount of interpreting done in each language as being influential. Further, no participant mentioned visual connection as a factor influencing interpreters' preference for language direction.

A new finding from this study was that psychological factors are viewed as being highly influential on signed language interpreters' directionality preference. The participants specifically pointed to the psychological impact of ego and fear, specifically emphasizing ego as affecting interpreters' preference for working into signed language. We note that both U.S. and Swiss participants discussed ego's influence; however, the greater number of comments came from the U.S participants and focused on individual interpreters' ego gratification. In contrast, the Swiss participants more often framed ego as being driven by Switzerland's "culture of accountability and failure."

One question in this study was whether differences would be found between the U.S. and Swiss participants. We recognized that the U.S and Swiss participants differ in several ways, including training and work opportunities, prevalence of fingerspelling, and demographics (e.g., size of general population, number of deaf people, number of interpreters). However, the findings appeared not to be greatly affected by different contexts between the countries. In particular, there was no

evidence that the diglossic situation in German Switzerland contributes to certain directionality preference for working into a spoken or signed language. It may be that the Swiss participants have their own preference hierarchy when interpreting into spoken language, such as preferring to work into Swiss German, rather than High German/Standard German, but this question remains to be explored.

Table 3: Summary of influences identified in present study and prior studies regarding signed language interpreters' L1-to-L2 direction preference.

#	Influences Identified in Present Study	Influences Speculated in Prior Studies that Support Findings in Present Study	Prior Studies*
1	Language Modality	Fingerspelling Production	N & E
		Transcoding	N & E
2	Self-monitoring	Self-monitoring	N & E
3	Deaf Consumers	Comprehension	N & E
		Familiarity and Alliance	H & A
		Diversity of Deaf Consumers	H & A
		Deaf Consumers	N & E
4	Psychological Factors	Negative Self-Talk	H & A
		Negative Spiral	H & A

**Note: "N & E" represents Nicodemus and Emmorey (2013); "H & A" represents Haug and Audeoud (2013).*

Limitations

We acknowledge limitations in this study. First, the participant groups were small with only ten interpreters for each country; however, 20 participants may be sufficient for this comparative, qualitative study. Another limitation may be that the study was designed to investigate one language direction (L1-to-L2), which may reflect the researchers' bias regarding the participants' comments; however, the study was designed based on earlier findings showing a L1-to-L2 directionality preference among signed language interpreters. Further, we found that the participants addressed both language directions in their responses, which were included in the analysis. Finally, the quantitative portion of the study (rating task) did not yield clear results, perhaps due to the wide range of participants' responses to each of the factors. Fortunately, the rating task was a single question in the interview and the rest of the interview data yielded a rich qualitative dataset.

6. Conclusion

In this study, we explored the language direction preference among signed language interpreters for working from L1-to-L2. We sought to verify – or reject – speculations made in earlier studies for the L1-to-L2 preference, which is in direct contrast to the preference of spoken language interpreters. Data collected in interviews with experienced signed language interpreters in the U.S. and Switzerland supported the factors underlying signed language interpreters' stated direction preference. Four themes were found to influence the preference for L1-to-L2 interpreting: (1) modality differences between sign and speech that allow interpreters to code blend when working into sign, (2) constraints on self-monitoring sign language production when working into sign, (3) deaf consumers (i.e., struggles to comprehend deaf consumers' signing, deaf consumers' acceptance of interpreters' signing, and deaf consumers' non-standard use of sign language), and (4) psychological states (particularly fear and ego).

These findings about factors that underlie language direction preference in signed language interpreting may be useful to interpreter education curricula. For example, signed language interpreting students may be unaware of how they exploit the modality differences between signed and spoken languages through fingerspelling and transcoding. Recognizing the differences in linguistic modality can aid students in recognizing ungrammatical patterns in their signed interpretations. Further, interpreter education programs are typically unbalanced in the degree of emphasis placed on teaching signed and speaking skills, with primary attention given to signed language development. In fact, signed language interpreting students may benefit from capitalizing on their native language skills when it is a spoken language by taking public speaking classes and analyzing their vocal production. Third, and unfortunately, many interpreters lack bilingual fluency in their signed language and thus, their comprehension of deaf consumers' language production proves challenging. This issue may only be resolved when interpreter education programs establish standards for bilingual fluency as both an entrance and exit requirement. Further, it would be beneficial for students to be exposed to linguistic variation through diverse Deaf language models. Finally, signed language interpreting students must come to understand the power and privilege they exercise when interpreting for deaf consumers. When interpreters are reluctant to interpret from signed language into spoken language, they do a disservice to deaf consumers who need equal and accurate representation in the dominant language.

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APPENDIX

Perspectives about language direction and asymmetries from signed language interpreters in Switzerland and the United States

INTERVIEW PROTOCOL

1. First, can you tell me your preference of language direction when interpreting? From ASL (or DSGS) into English (or German) or in the opposite direction? Or no preference?

2. Why do you prefer that direction? (If the participants state no preference, ask for further comments about their response.) Why do you think this way?

3. Do you feel you are more proficient when interpreting in one direction than another? Why do you think this way?

4. Have you ever worked with interpreters who have a strong preference for working in one direction? Can you expand on your answer?

5. Have you had any experiences when directionality preference was present during team interpreting? Can you tell me about those experiences?

6. Can you recall a time that directionality preferences played a role in the outcome (positive or negative) of an assignment?

7. Do you believe it is possible for signed language interpreters to be balanced in their proficiency in both language directions? Why or why not?

8. In what ways do you develop your spoken language skills for interpreting? Your signed language skills?

9. Before the interview, I sent you the rating form that lists various reasons that interpreters may prefer to work in on language direction over another. I have a copy of that form in front of me and would like to record your ratings on how influential you believe these factors are on directionality.

That is the end of the interview. Thank you again for your participation. Do you have any further comments about directionality that you would like to add?