

# Pragmatics of second person address variation in New Zealand Sign Language

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## Abstract

Expansion of contexts and purposes for the use of New Zealand Sign Language (NZSL) and the affordances of online video communication modes have led to the emergence of new genre features which have not yet been described. Focusing on contemporary online informative videotexts in NZSL, we take a variationist pragmatics lens to examining variation in second person address between index-finger and whole-hand pointing forms. Forms of address are significant in the construction of social relations between speakers and addressees, having the potential to index dimensions of status, social distance and speaker stance. This study used mixed methods to investigate the use and social indexicality of a whole-hand pronominal variant in NZSL, including analysis of its distribution and associated factors in a dataset of online videotexts and data from other genres and time periods. Metapragmatic insight of NZSL signers about contextual and social motivations for the use of whole-hand pointing address enriches our interpretation of observations in the video data. In addition to confirming that the whole-hand form of address is a modern usage, participants identified four other associations with this form: genre, mode, politeness, and Māori context. We conclude that the typical use of whole-hand address in these informative online videos is a feature re-mediated from in-person public speaking contexts, which is now associated with and replicated in the online modality of this public address genre.

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**Keywords:** New Zealand Sign Language; Pragmatics of address; Genre; Pronominal pointing; Online modality

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## 1. INTRODUCTION

Social change and language change interact in notable ways when a lesser-used language enters new domains, prompting new language practices and ideologies. Typically, status recognition of a minority language leads to diversification of lexicon and registers to serve new communicative purposes such as education (Fedina, 2015), political rhetoric (Sani, 1988), or broadcasting (Enari and Keung, 2023; Shulist, 2012). Status, contexts and functions of New Zealand Sign Language (NZSL) have changed significantly in recent decades. Until the mid 1980s, NZSL was used mainly in social domains among familiar Deaf interlocutors, with little observed evidence of register differentiation. Since then, the valorisation of NZSL, including legal recognition in 2006, has expanded opportunities for its use in wider society with concomitant expansion of language repertoires and practices in more diverse contexts. For example, many Deaf individuals now hold professional and leadership roles in which they mediate online access to information and services for the Deaf community in NZSL. As seen in revitalising languages (Warschauer, 1998), the advent of digital media and the internet has enabled community-driven production and sharing of sign language (SL) texts via social media and organisational websites, in the manner of informal broadcasting. The uptake of this asynchronous, mass mode of communication is a major departure from traditional face-to-face NZSL discourse practices.

As described for Deaf people generally, the internet has also extended NZSL users' sense of global Deaf sociality and allowed virtual access to offshore sources of cultural capital (Ahlin and Hiddinga, 2023; Kusters, 2021). Digitally-engaged NZSL users now have virtual contact with content (and potentially interaction) in other signed languages (SLs), the largest volume of which is in American Sign Language (ASL). Even pre-internet, ASL lexicon has been widely borrowed into other national SLs and in trans-national encounters, reflecting its perceived association with "deaf rights, charisma, progress, confidence and development" (Kusters, 2020: 53). Borrowing into NZSL from the languages of larger Deaf communities, especially ASL, British Sign Language (BSL) and Australian Sign Language (Auslan), is evident at the levels of lexicon, morphology and discourse. Adoption of external language resources may begin with individuals' direct exposure online or contact through travel, but is disseminated through local networks and facilitated by the NZSL community's generally tolerant attitude towards linguistic variation and innovation (McKee and McKee, 2020; McKee et al., 2022). Practices that have become conventional in global Deaf cyber-space such as posting informative SL texts about events and current topics of interest have likewise emerged in the NZSL landscape. These developments reflect Coupland's (2001: 194) early observation that "Globalising modes of communication are likely to impact on the directions and rates of language change, but may also produce new styles, genres, and functions of language". Giltrow and Stein (2009) similarly call for more attention to the proliferation of genres in the internet environment which enables new communicative functions and forms.

Genres can be described as modes of talk which have a specific function and socially agreed-upon features of grammar and lexicon that develop over time (Bawarshi and Reiff, 2010; Halliday, 1978). Furthermore, changes in communicative practices, including new modalities and genres, index shifts in interpersonal relations – something that Coupland (2014) argues should fall within the wider purpose of studying variation and change. Contextualising the social meaning of variable linguistic features or practices entails probing the ideologies of individuals who use and interpret them (Eckert, 2018). Accordingly, this study takes a variationist pragmatics approach which considers "how individuals use linguistic resources to produce and interpret meaning in interaction, and sometimes to change relationships" (Holmes, 2018: 11). The specific resource of interest in this study is the selection of a whole-hand second person pronoun variant in direct address, especially in the emerging genre of online informative videotexts (demonstrated in Fig. 1).



Fig. 1. Whole-hand second person pronominal pointing variant (audience address) in online announcements in NZSL.

## 2. REGISTER AND GENRE IN SLS

Register and genre characteristics in SLs generally are relatively under-studied (Gabarró-López and Meurant, 2014; Sallandre et al., 2019). In addition to the facts that SLs have historically been used in a restricted range of social contexts and that linguistic description of most SLs is relatively recent, the absence of a written mode also constrains analysis of large corpora that represent a variety of authentic types of discourse (Schembri and Cormier, 2022). Nevertheless, a number of studies have identified lexical, phonological, morphosyntactic and discourse features associated with formal or casual registers in various SLs, including variation in features such as spatial reference, phonological reduction, signing size, and language contact features such as fingerspelling and adopting features of spoken language syntax such as word order and signed equivalents of spoken language function words (Cohen-Koka et al., 2023; Gabarró-López, 2019; Johnston and Schembri, 2007; Paligot and Meurant, 2016; Stone, 2011; Zimmer, 1989). Some studies have identified features in specific text types such as lectures (McKee, 1992; Roy, 1989; Winston, 1991), narratives (Beal-Alvarez and Trussell, 2015; Perniss, 2007; Quinto-Pozos, 2007), poetry (Crasborn, 2005; Mesch and Kaneko, 2017; Russo et al., 2001; Sutton-Spence, 2005) and television broadcast (Simper-Allen and Mesch, 2019; Stone, 2009). Distribution of lexical types (productive v. ‘frozen’ signs) by genre or text type<sup>1</sup> has also been investigated (Fenlon et al., 2014; Ferrara, 2012; Johnston, 2012; Morford and MacFarlane, 2003; Takkinen et al., 2018). Overall, it is noted that further usage-based evidence is needed to accurately characterise features of genres in SLs (Lepic, 2019; Sáfár and Crasborn, 2013).

Communicative practices among SL users in virtual (and physical) trans-national spaces have recently been discussed (Ahlin and Hiddinga, 2023; Hiddinga and Crasborn, 2011; İlkbaşaran, 2015; Kusters, 2021; Kusters and Friedner, 2015), but the characteristics of online genres within particular national SLs is little described in the literature. Hou et al. (2020: 34) describe the internet as an “emergent language ecology” which enables “potentially new genres and subgenres of discourse” in SLs. Their study considers methodological considerations in creating and interrogating a SL corpus from internet sources, illustrated by a pilot analysis of first person referential constructions in two online texts in ASL. A study of televised news bulletins in Swedish Sign Language (Simper-Allen and Mesch, 2019) identifies how Deaf presenters in that multimodal context make use of spatial devices including pointing, gaze, sign directionality and torso movement to maximise referential clarity in the absence of a co-present audience. In the genre of ASL vlogs, Wilkinson (2013) finds that seasoned vloggers use a reflexive pronoun glossed as ‘SELF’ (which has copula, existential meaning) more frequently than in face-to-face discourse, suggesting that it has an emphatic function perhaps prompted by the absence of visible audience feedback. A recent analysis of NZSL informative online texts found ‘weak prop’ (the doubling and addition of a base hand to one-handed signs) to be prevalent, creating a hyper-articulated effect (McKee et al., 2024). These are all features which originate in face-to-face genres of SLs which appear to be amplified or re-mediated in filmed, online genres. Bawarshi and Reiff (2010) define genre re-mediation as the adaptation of pre-existing genres into new media – for example, blogs as a descendant of the written journal and email as a re-mediation of the written memo. This study considers the likelihood that a whole-hand variant for second person address is re-mediated from face-to-face settings as a characteristic of filmed, online posts, with particular social indexicality in this context. In Sections 3 and 4 we will briefly review the pronominal function of pointing in SLs and some pragmatic aspects of pointing as co-speech gesture.

## 3. PERSON REFERENCE IN SLS

In all known SLs, pointing with the index finger to self, addressee and others serves the role of pronominal reference (Pfau, 2010). Johnston (2013:112) summarises how person reference works in SLs as follows:

“physically present referents are directly pointed to (indexical deixis), while absent referents are associated with locations in the space around the signer which are then pointed to (abstract deixis). In their most basic form these SL ‘personal pronouns’ are very similar to the deictic pointing gestures made by non-signers; moreover they appear to be virtually identical across SLs”.

Johnston’s wording of ‘personal pronouns’ references the fact that some scholars argue that the deictic, unspecified properties of pointing in SLs make their status different from the pronoun systems of spoken languages which encode person reference in more conventionally lexicalised forms (Cormier et al., 2013; Fenlon et al., 2019; Johnston, 2013; Liddell, 2003). While our study is not directly concerned with debate around the lexical/gestural status of pointing signs generally, nor with phonological variation in these forms, it is relevant to note that in corpora of BSL (Fenlon et al., 2013)

<sup>1</sup> Biber (1988) distinguishes between genre as a situational category, and text type in terms of form, as a systematic agglomeration of linguistic features (Giltrow and Stein 2009). In the sign language literature, there is generally more reference to text type.

and of ASL (Bayley et al., 2002), pronominal pointing signs, especially first-person, are the most prone to variation in the realisation of the extended index finger handshape. Barberà and Zwets (2013) report handshape assimilation (i.e., phonetic environment) effects in pronominal pointing, but comment that the use of whole-hand pointing is syntactically and semantically driven in some contexts. In a corpus-based comparison of person-directed pointing by deaf signers and hearing gesturers on a television interview show, Fenlon et al. (2019) found that both signers and gesturers favour open-hand (B) handshapes over the index finger to point to the self, in contrast to index finger pointing to the addressee or other entities. Furthermore, their finding that hearing speakers in the context of a television interview also prefer to point to others with an open hand supports the view that this is a politeness convention, especially in formal, public settings.

Across signed and spoken languages, Pfau (2010) identifies that variations of form in handshape, movement, orientation and eye gaze with pointing gestures can distinguish between locative, demonstrative and pronominal meaning, as well as indicating information structure (e.g. new/old information and specificity). Pfau (2010) cites Kendon's (2004) and Kendon and Versante's (2003) findings that in co-speech gesture, index finger pointing tends to single out a particular object for attention, whereas the 'B' (whole hand) handshape is less often accompanied by a deictic word and typically refers to something linked to the topic, rather than a particular referent. In the Arrente language of Australia, Wilkins (2003) describes a contrast in handshape between singular (index finger) versus plural (whole hand) reference. In spoken languages, Kendon (2004) also observes that palm-addressed gestures often serve the pragmatic function of identifying or acknowledging someone as the source of an utterance or information. Such co-speech pointing gestures are available to Deaf signers as semiotic resources, although it is noted that their use may be pragmatalized slightly differently within SLs (Barberà and Zwets, 2013; Bolly et al., 2015). In sum, evidence from various linguacultures highlights that "pointing is socioculturally complex, the forms are shaped by social convention, and there tends to be a system of pointing signs in oppositional contrast" (Wilkins, 2003: 208). In relation to SLs, Pfau (2010: 157) comments that while whole-hand and index pointing forms are widely attested, "only little is known about potential specialized functions associated with these two forms", indicating a gap in pragmatic analysis of their use in natural SL data. For reasons expanded further in Section 4, this study explores pragmatic variation in direct address pronominal pointing.

#### 4. SOCIAL INDEXICALITY OF DIRECT ADDRESS

Scholars concerned with meaning in sociolinguistic variation such as Silverstein (2003) and Eckert (2018) have directed attention to the values and traits that speakers associate with variants, describing the link between a linguistic variable and the meaning it regularly invokes as social indexicality. Forms of address are pragmatically especially important in regulating social distance between interlocutors because they are indexical of a speaker's relationship to others, and their selection contributes to register and formality distinctions (Agha, 2006; Norrby and Wide, 2015). The social indexicality of second person pronominal address is most apparent in languages employing a tu/vous (T/V) contrast which indexes dimensions of power/deference or distance/solidarity between speaker and addressee (Brown and Gilman, 1960; Coupland, 2007; Kasper, 1990). Silverstein (2003) observes that more marked forms are more likely to accrue meaning than less marked forms; for example, a speaker's choice of vous is understood as 'marked or elevated in value' whereas tu is ideologized as more 'neutral' in relational terms. Brown and Gilman's (1960) seminal account of T/V indexicality suggests that addressing a higher status interlocutor by the plural 'vous' form originates in a metaphor of 'plurality as power'. Indeed, cross-linguistically, using a plural pronoun is a common strategy to construe polite or honorific address (Wang 2023). Brown and Gilman (1960) observed that T/V address practices between individuals change as they become more familiar to one another. At macro-societal level, sociopragmatic norms for T/V forms of address have changed over time as rigid power hierarchies have been replaced by a social ethic and semantics of solidarity (Coupland, 2007). For example, in modern French, T/V has become less asymmetrical and mainly encodes familiarity/distance between relative equals (Kerbrat-Orecchioni, 2018), and in Swedish, the informal 'du' pronoun has become the unmarked form (Fremer, 2023). Contemporary reconsideration of Brown and Gilman's (1960) account highlights that rather than being determined by a given social order, speakers' choice of address terms in situated interaction constructs social relations as interpreted through the metapragmatic frameworks of a speech community (Morford, 1997). Address terms are also analysed in terms of speaker stance, a construct which captures an individual's linguistic choices to express 'who they are' in relation to others (Kiesling, 2009).

#### 5. WHOLE-HAND POINTING AS A POLITE FORM OF ADDRESS IN SLS

In sign language discourse, proper names and honorific address terms such as titles are seldom used in direct address (as they might be in an adjacent spoken language). A key reason is that in a visual modality, initiating engagement with an interlocutor primarily entails establishing mutual gaze which is normally achieved by means such as raising






		
'YOU' <a href="https://www.nzsl.nz/signs/2321">https://www.nzsl.nz/signs/2321</a>	'YOU-plural' <a href="https://www.nzsl.nz/signs/2600">https://www.nzsl.nz/signs/2600</a>	'THEY/THEM' <a href="https://www.nzsl.nz/signs/2287">https://www.nzsl.nz/signs/2287</a>
	(no dictionary entry for PRO2-pl honorific)	
'YOU' (honorific) <a href="https://www.nzsl.nz/signs/5250">https://www.nzsl.nz/signs/5250</a>		'THEY/THEM' (honorific) <a href="https://www.nzsl.nz/signs/7204">https://www.nzsl.nz/signs/7204</a>

Fig. 2. Unmarked (index point) and honorific (whole-hand) forms of non-first person reference in NZSL.

the hands into the signing space, using an alerting gesture (a small handwave or tap), or an informal greeting (Horton and Singleton, 2022; Nicodemus et al., 2021). We have seen a recent change to this norm in group video-conferencing (especially since the Covid pandemic) where participants may gain the visual attention of a specific addressee by directly addressing them by their sign name. In a multi-party on-screen mode, conventional turn-taking regulators of directed gaze, pointing, or alerting gestures are not always effective, since participant windows are arranged differently on each person's screen and thus spatial alignment or targeting of these signals is ambiguous (McKee and Pivac Alexander, 2024).

Furthermore, Deaf communities tend to comprise small and relatively egalitarian social networks, which mitigates against the development of address practices that encode differentiations of social status or distance. However, whole-hand pronominal pointing as an honorific form to convey formality or a stance of respect towards a referent is described in ASL<sup>2</sup> (Liddell, 2003; Roush, 2011), and in the SLs of Japan, Korea and Russia (Perniss and Zeshan, 2008). In Japanese Sign Language (JSL), a pragmatic contrast between finger pointing ('casual') and whole-hand, palm-up pointing ('polite') to an addressee mirrors contrast in the co-speech gestures used by hearing people in similar contexts (Perniss and Zeshan, 2008). In LIBRAS (Brazil), Berenz (2002) notes that whole-hand pointing can be honorific, and/or denote plural person reference.

Whole-hand pronoun forms in NZSL were recorded as entries in the Dictionary of NZSL in 2010 (McKee et al., 2011) (see Fig. 2). Dictionary records label these variants as honorific and note that they were not seen in corpus data prior to that time, suggesting their use is rather recent. However, beyond community validation as dictionary entries, usage evidence about their honorific or other pragmatic connotations is not documented.

## 6. METHOD

To examine the social meaning of the whole-hand pronominal variant in NZSL, particularly in the genre of online texts, we take an 'integrative pragmatics' approach which combines quantitative and interpretive methodologies to identify the form-function relationships that speakers and analysts observe in situated language use (Haugh and Culpeper, 2018). We first undertook quantitative analysis of factors associated with the distribution of index finger and whole-hand pronominal pointing variants in a small collection of video texts from different discourse contexts. Additionally, we reviewed situated examples with focus groups of NZSL signers to explore how they perceive and explain pragmatic dimensions of this variant (Schneider, 2021).

Datasets and methods are explained further below.

### 6.1. Data

For this enquiry, we created a dataset comprising 28 NZSL announcements of Deaf community events and public service information (such as health-related information in the Covid-19 situation), that were posted on Deaf organisation

<sup>2</sup> Historical examples of whole-hand person reference in ASL can be seen in archival film of Deaf American signers making formal addresses that were recorded between 1910–1920, accessible at: <https://hslodb.georgetown.edu/films/>.

public websites and public social media in 2020–2021. The majority of these videos were less than 3 min in length. To enable comparison with the effects of various linguistic and non-linguistic factors, we also sampled excerpts of 1–3 min from an existing corpus which included NZSL data recorded in different time periods (the oldest texts in 2005), from different text types including planned, ‘formal’ texts addressing a mass audience, and unplanned conversations (recorded for research purposes but produced spontaneously without a researcher present), and in different modes: face-to-face or online. The combined dataset for this study consisted of 73 texts from 48 individuals, for a total of 124 min and 12,052 lexical token annotations. After exploratory analysis of all pointing signs (see further under ‘Coding video data’), we excluded from our quantitative analysis any video texts that did not contain any tokens of second person pronominal points.

The analysis reported in this article is based on 303 tokens of second person pronominal points (hereafter referred to as PRO2) identified in the dataset, occurring in the texts as shown in [Table 1](#).

For analysis, face-to-face conversation and recount were combined into one genre since they had similar situational profiles in terms of being produced in a dyadic, relatively relaxed, in-person situation of information sharing.

The video data was produced by 48 signers, 8 of whom produced more than one text. As this data was mainly sourced from public online sources (with the exception of conversational data) and our primary focus is genre or textual features rather than social characteristics of signers, we did not explicitly collect personal demographic data. (See Hou et al. 2020 for discussion of considerations around the use of public online SL data). However, NZSL networks are small enough that the identities of signers in the online data – including their ethnicity and age band – were known to our research team. All are identified as NZSL users from childhood who attended various deaf education settings, however we did not seek details of individual language backgrounds. The sample included signers from different urban regions, genders, age groups (based on decade of birth and collapsed into three groups) and ethnicities (grouped as Māori, Pākehā/NZ European, and Other). Due to the small number of relevant tokens from some participants and our focus on the effects of genre and situational factors, we did not include gender or region as possible predictors. Ethnicity was included because participants in a recent study suggested that whole-hand pointing might be associated with being Māori ([Simchowitz, 2023](#)). [Table 2](#) summarises signer demographics (age group and ethnicity).

## 6.2. Coding video data

Data was glossed and annotated in ELAN video annotation software ([Crasborn and Sloetjes, 2008](#); [ELAN, 2023](#) version 6.7, 2023). Pointing signs were categorised according to whether they had a pronominal or different function (judged by syntactic position or pragmatic intent in the case of some second person tokens); for pronominal forms, person indexicality retrieved from the semantic context was coded.

After initial exploratory modelling of all tokens that we coded as pronominal, and given our interest in the pragmatics of the ‘honorific’ address form, we decided to limit quantitative analysis to tokens of second person pronominal pointing signs (PRO2) only. First person pronominal points in our data often had a much more relaxed, loose handshape than the description of a formal or honorific proform variant (see e.g. [Liddell, 2003](#)). A first statistical model also showed a strong association of the whole-hand form with first person reference in conversations, rather than in formal contexts. Given the general prevalence of phonetic assimilation in first person pointing handshapes ([Bayley et al., 2002](#); [Fenlon et al., 2013](#)), it was therefore likely that this was an important factor prompting whole-hand forms in our first person tokens. We also excluded third person tokens, because distinguishing between the many functions of pointing signs is not always easy ([Johnston, 2013](#) discusses this). In particular, there is ambiguity between pointing signs functioning as demonstratives, locatives and third person pronouns, especially when the pointing sign refers to an object rather than a person, or the exact referent is not retrievable in the data. Instances of PRO2 were in most cases more easily identified by alignment of hand direction and gaze to addressee, or to camera in the case of online public posts. Index-extended and whole-hand variants were coded as PRO2 and PRO2(B) respectively. Since we treat these as lexical variants, we did not code finer phonetic variation in their production, such as the occurrence of thumb extension, bent fingers, or slightly varying palm orientation (although it is possible that orientation may have semantic or pragmatic import in some instances).

## 6.3. Quantitative analysis

We tested the effect of various social and contextual predicting factors on the likelihood of PRO2(B) being used through mixed effects logistic regression models, using R version 4.3.1 ([R Core Team, 2023](#)) and the lme4 package ([Bates et al., 2015](#)). Signer was included as a random intercept, and each predictor as a fixed effect. Odds ratios (OR) and corresponding 95 % Confidence intervals (CI) were determined using the broom.mixed package ([Bolker and Robinson, 2024](#)). A statistically significant effect is reported if  $p \leq 0.05$ .

Table 1  
Video text sources.

Source	Time period	Genre	Situation/text type	Mode	No. of signers	No. of PRO2 tokens
Variation corpus	2005–2007	Conversation	Unplanned, 1 conversation partner	Face-to-face	5	20
		Recount	Unplanned, 1 interviewer	Face-to-face	3	8
Health stories (Major et al., 2017)	2014–2016	Recount	Unplanned, 1 interviewer	Face-to-face	7	16
Public posts	2020–2021	Informative	Planned, mass audience	Online	28	117
New recordings	2021–2023	Presentation	Planned, mass audience (Deaf conference)	Face-to-face	5	108
		Conversation	Unplanned, 1 or 2 conversation partners	Face-to-face	4	11
		Conversation	Unplanned, 1 or 2 conversation partners	Online	4	23
<b>Total</b>						<b>303</b>

Table 2  
Dataset participant demographics.

Ethnicity	Age group by birth decades			Total
	1940–1979	1980–1999	2000–2009	
Pākehā/NZ European	11	12	3	26
Māori	6	8	2	16
Other	1	6	0	7

Table 3  
PRO2 tokens by predicting factor.

Factor		Number of tokens (n) (% of total)				
		Index PRO2		Whole hand PRO2(B)	Total	
Genre	Conversation/recount	75	(96.2 %)	3	(3.8 %)	78
	Public post	102	(87.2 %)	15	(12.8 %)	117
	Stage presentation	87	(80.6 %)	21	(19.4 %)	108
Text type	Planned	189	(84.0 %)	36	(16.0 %)	225
	Unplanned	75	(96.2 %)	3	(3.8 %)	78
Mode	Face-to-face	141	(86.5 %)	22	(13.5 %)	163
	Online	123	(87.9 %)	17	(12.1 %)	140
Time period of filming	Earliest (2006–2008)	28	(100 %)	0	(0 %)	28
	Mid-period (2014–2016)	16	(100 %)	0	(0 %)	16
	Current (2020-present)	219	(84.6 %)	40	(15.4 %)	259
Plurality	Singular	188	(92.2 %)	16	(7.8 %)	204
	Plural	76	(76.8 %)	23	(23.2 %)	99
Age group	1940–1979	105	(90.5 %)	11	(9.5 %)	116
	1980–1999	133	(83.6 %)	26	(16.4 %)	159
	2000–2009	26	(92.9 %)	2	(7.14 %)	28
Ethnic identity	Pākehā/NZ European	149	(87.6 %)	21	(12.4 %)	170
	Māori	71	(88.8 %)	9	(11.2 %)	80
	Other	44	(83.0 %)	9	(17.0 %)	53
<b>TOTAL</b>		<b>264</b>	<b>(87.1 %)</b>	<b>39</b>	<b>(14.77 %)</b>	<b>303</b>

The number and proportion of PRO2 tokens per predicting factor are summarised in [Table 3](#).

Time period of filming was omitted from our modelling due to complete separation in the data: that is, no observations of PRO2(B) occurred in the earliest and mid-period texts. These texts were conversational in nature, but within these we sampled more narrative segments produced by one of the signers, without interaction. This may have contributed to a low number of PRO2 tokens overall in the earliest and mid-period recordings. We tested the remaining predictors of interest separately first and then ran a multiple mixed effects logistic regression model with the predictors that proved significant.

#### 6.4. Qualitative data collection: Metapragmatic perceptions

To investigate perceptions of pragmatic meaning associated with the use of PRO2(B) in public online posts, we convened five focus groups on Zoom, each comprising three Deaf participants with a facilitator. The 15 participants (see [Table 4](#)) were selected to represent a range of age groups and levels of metalinguistic awareness. We tried not to limit the participant group to NZSL teachers or translators who generally have more metalinguistic awareness than individ-

Table 4  
Focus group participant demographics.

Age group	Ethnic identity			NZSL related occupation	
	Pākehā/NZ European	Māori	Other	Yes	No
Over 40 (n = 12)	9	2	1	9	3
Under 40 (n = 3)	2	0	1	0	3

uals who are not engaged in language-related work. However, as our sample reflects, these individuals tend to be the most motivated to participate in language research.

During the focus group sessions, the facilitator played a series of examples of whole-hand pointing that were excerpted verbatim from the dataset of online posts (each one in the phrase in which it occurred). Signers in the data clips that were used as discussion prompts would have been recognised by most, if not all, of the focus group members. For reasons of confidentiality, examples from conversational data were not reviewed. The facilitator guided participants to discuss these questions:

1. What is the similar thing you notice in the clips?
2. Why/ when do signers do that? What is the impact?
3. Do you see this in face-to-face chat, or more in online posts?
4. Any other comments?

This procedure generated rich metapragmatic discussion. The recorded discussions in NZSL were translated into English by the facilitators, cross-checked for accuracy among three researchers and transcripts were thematically coded using NVivo version 14 (Lumivero, 2023). We took an inductive approach to coding themes that emerged from the data, based on both surface form of participants' discussion and our interpretation of their meaning (Braun and Clarke, 2019). Initial themes were recursively refined and grouped into more over-arching themes.

## 7. RESULTS AND DISCUSSION

### 7.1. Mixed effects logistic regression models

Table 5 shows the results of independent tests of each predictor to determine whether it affects the likelihood of the use of the whole-hand pronominal pointing form PRO2(B). Significant effects are in boldface.

Three predictors were significant at  $p < 0.05$ : plurality, text type, and genre (marginally). The PRO2(B) form was significantly more likely to occur in:

- points with plural person reference;
- planned text types (both public posts and stage presentations).

Due to the nature of our dataset, these two factors may not be completely independent. Planned text types were all addressed to a mass audience (whether directly or via a camera), whereas unplanned conversations and recounts were addressed to one or two interlocutors. We will discuss this interdependence further in Section 7.2.1.

No statistically significant difference in the likelihood of using the PRO2(B) form was found between the different modes (online or face-to-face), age groups, or ethnicities.

Genre was marginally significant when tested as an independent predictor, but the genres most likely to prompt the PRO2(B) form were both planned text types. To avoid the interdependence of the genre and text type factors, we ran two separate models to examine the combined effect of the significant predictors. The first model included genre as a predictor but omitted text type; the second model included text type but omitted genre. In model 1, genre was no longer significant (public announcements  $p = 0.1418$ , stage presentation  $p = 0.0898$ ), but plural reference remained significant ( $p = 0.0060$ ). Similarly, in model 2, text type was no longer significant ( $p = 0.0975$ ), but again plural reference remained significant ( $p = 0.045$ ).

Table 5  
Predictors of PRO2(B) tested independently.

Predictor	Reference Category	Odds ratio (95 % CI)	p-value
<b>Plurality</b>			
Plural	Singular	3.920 (1.768, 8.692)	<b>0.0008*</b>
<b>Text type</b>			
Planned	Unplanned	5.064 (1.267, 20.242)	<b>0.0217*</b>
<b>Genre</b>			
Public post	Conversation/Recount	4.224 (1.007, 17.723)	<b>0.0489*</b>
Stage presentation		7.392 (1.448, 37.728)	<b>0.0162*</b>
<b>Mode</b>			
Online	Face-to-face	1.662 (0.459, 6.014)	0.4389
<b>Age group</b>			
1980–1999	1940–1979	2.226 (0.653, 7.592)	0.2013
2000–2009		0.767 (0.080, 7.369)	0.8179
<b>Ethnic identity</b>			
Māori	Pākehā/NZ European	1.172 (0.292, 4.712)	0.8229
Other		2.987 (0.506, 17.642)	0.2272

\* p < 0.05.

## 7.2. Qualitative results and discussion

Data-driven thematic analysis of the focus group data revealed five main ideas in participants' explanations of the social meaning of whole-hand pointing, as listed below.

1. Discourse context
2. Mode
3. Change over time and 'global' influences
4. Politeness
5. Māori identity or context

The consistency of these explanations suggest that metapragmatic knowledge about this variable feature is readily accessible to and shared by NZSL users. For each of these themes, we will first report speaker perspectives and then discuss how the results of quantitative analysis of the data support or differ from participants' observations.

### 7.2.1. Discourse context

Whole-hand pointing was most readily associated by focus groups with public address, such as in a presentation, a large meeting, or an online post. Some participants identified it with a 'formal' setting:

*"It can be a part of formal signing to use a whole-hand point ... when someone is doing a presentation, they might indicate to someone with the whole hand."*

The choice of this less specific pointing form may parallel the tendency for polite address in spoken languages to take the form of a plural pronoun (Wang, 2023).

A related element in such contexts is a mass audience. For example, one participant commented:

*"With vlogs, I guess the person is imagining their audience as made up of lots of people. So they wouldn't use pointing, they would use the whole hand to show 'you all'."*

Results of the quantitative analysis support these observations. As Table 5 shows, the use of the PRO2(B) form was significantly more likely in cases with plurality of reference and, when tested as an independent factor, in planned text types with a mass audience.

The association of the whole-hand form with plurality suggests it carries less specificity of reference than the index finger; when a signer does not want to single out a specific addressee, they may instead use a whole-hand form. This aligns with the observation in LIBRAS (Berenz, (2002) and that whole-hand pointing in co-speech gesture often has plural reference (Pfau, 2010; Wilkins, 2003). In stage presentations in our data, 12 out of 22 instances of PRO2(B) had plural reference, addressing the audience ('you-all'), such as in Example 1.

#### Example 1.

---

PRO1pl [NAME-OF-ORGANISATION] WANT PRO2(B)pl MAKE SURE PRO2(B)pl ALL GOOD HEALTH  
 We at [name of organisation] want to ensure that you all remain in good health.

---

Audiences usually view online texts on an individual basis, yet the signer imagines their addressees 'en masse', based on their intent to inform 'the community', which was traditionally done face-to-face in a group situation, evoking a plural form of address.

The association of plurality of address with planned text types in our data is likely to be the strongest contributor to the statistical significance of text type in our models. However, there is some evidence that text type is also a factor independent of plural address: singular PRO2(B) made up 9.7 % of tokens in planned texts, but only 4.3 % of tokens in unplanned texts. This supports our analysis that several aspects of the discourse context combine to prompt increased use of PRO2(B).

#### 7.2.2. Mode

Participants concurred that whole-hand pointing (in general, not only pronominal pointing) is typical in online video texts. It was suggested that in a two-dimensional modality, a whole-hand is more visible and salient than index-finger pointing, as this participant explained:

*"The flat hands are easier to see on camera and so it has more impact. If you just pointed it wouldn't quite be the impact you need on camera."*

On this theme, it was suggested that a larger handshape is not only "clear to see" but also creates a more expansive effect which makes it easier to follow: "it slows down the talk". These modality-specific points echo explanations about the doubling of one-handed signs, as a form of hyper-articulation, also evident in this dataset (McKee et al., 2024).

Whole-hand pointing was evaluated as more perceptually pleasing in an on-screen mode, perhaps due to the proximity between a screen and a viewer, and distortion of depth proportions in one dimension, as this comment suggests:

*"On video, [index-finger pointing] is like sticking a finger in someone's face, whereas online you are more polite – doing [whole-hand pointing] to camera ... looks nicer."*

Focus groups noted that this choice is not unique to the online mode; its perceived association with this mode is likely because information and announcements in NZSL are now routinely encountered online, rather than in face-to-face contexts. Quantitative analysis results show that mode was actually not a statistically significant predictor, either independently tested or combined with other predictors. Comparing the two planned text types, face-to-face stage presentations had a higher proportion of PRO2(B) tokens (19.4 %) than online public posts (12.8 %) (see Table 3). However, compared to unplanned conversations, the whole-hand form was significantly more likely in both of these planned text types. This suggests that visual salience is more strongly associated with text type (i.e., planned, public address) than with the online/filmed modality per se; or at least that visibility and salience are not qualities that are exclusively associated with signing to camera. To test whether visual salience in an online mode might be a factor in signers' use of PRO2(B), we also ran models to compare face-to-face and online conversations, finding that conversations in either mode contained very few tokens of PRO2(B). Although the proportion of PRO2(B) was higher in the online mode than in face-to-face conversations, mode was again not statistically significant in this model.

### 7.2.3. Generating rapport with an unseen audience

Discussing the pragmatics of internet genres, Yus (2018: 271) highlights the relevance of Social Presence Theory (Byrne, 1994), which asserts that interlocutors need to feel that they are mutually involved in communication – a feeling which decreases when the contextual information available to both interlocutors is reduced by properties of the channel or mode itself. Given that co-presence and mutual eye gaze were requisites of interaction in NZSL until fairly recently, we can expect remote, asynchronous and monologic conditions to prompt new practices to compensate for the loss of physical social presence and of a three-dimensional signal in this modality. Participants alluded to this as a difference between online and in-person modes:

*“It’s hard to know the mood of the person/s who will be watching the online video. For example, in-person, you can read a person’s body language and adjust accordingly. If someone is getting annoyed, then you can adapt to that as it happens. Maybe slow down or be kinder or something.”*

The invisibility of an audience may prompt whole-hand pronominal address to more overtly construct rapport, as in ‘I am addressing **you**’. This seems to be the signer’s aim in Example 2.

**Example 2.** Context: announcing an invitation to a virtual (zoom) Deaf club hang-out during Covid lockdown; filmed in a casual setting; signer has a cheerful, animated demeanour; appears to assume individual addressees.

---

COME JOIN HAVE FUN. ENJOY STAY HOME, WARM BLANKET, DRINK COFFEE, INFORMAL CAN **PRO2B**  
Come join us and have fun! **You** can enjoy staying at home with a warm blanket, drinking coffee, just hanging out.

---

In Example 3, the signer generates social presence by opening with a greeting/ enquiry that implies a prior social connection with the viewers (‘How are you all?’).

**Example 3.** Context: announcing an invitation to a Deaf poker night; filmed in a casual setting; signer is young, has a relaxed, unrehearsed demeanour; appears to assume an audience of a known group of Deaf poker players.

---

HOW-ARE-YOU **PRO2(B)pl**? GOOD!  
How are **you all**? Great!

---

In Example 4, the signer uses a honorific singular address form, perhaps to convey that he is addressing the audience with an important message within his professional capacity, and that this information is relevant to each individual (‘you’) in the community.

**Example 4.** Context: Deaf organisation staff member addresses the topic of circulation of mis-information about Covid vaccines; signer has a serious demeanour; appears to assume individual addressees.

---

IMPORTANT **PRO2(B)** ACCESS INFORMATION RIGHT  
It is important that **you** have access to the right information.

---

### 7.2.4. Change over time

Perceptions of whole-hand pointing as a ‘modern’ or current style emerged strongly in focus groups, supporting our observation of its prevalence in contemporary online texts. One participant described this usage as ‘new’ and as a change over time, as follows:

*“Over the years I’ve seen this change. This is a new thing. Back then you would point using the index finger only. Times have changed because of cultural diversity and it is more accepted, to respect all, maybe.”*

The phrases ‘cultural diversity’, ‘accepted’, and ‘respect all’ suggest growing awareness of the likely presence of onlookers beyond the primary Deaf audience as NZSL has moved into public spaces – both physical and virtual. We will return to the notion of ‘cultural diversity’ in our discussion on ethnicity as a perceived factor.

Change over time was also shown in results of quantitative analysis (see [Table 3](#)): while there were no tokens of PRO2(B) in the earliest and mid-period texts, in the current time period (2020 – present), whole-hand forms made up 15.4 % of all PRO2. However, due to the lack of PRO2(B) tokens in the earlier time periods, we were unable to fit any models which included ‘time period of filming’ as a predictor. The overlap between genre and time period of filming in our data must be acknowledged: planned texts were infrequently produced or recorded in the earlier time periods, due to restricted contexts for the use of NZSL and the scarce availability of digital technology to record it. We did find a small increase of PRO2(B) tokens over time in unplanned texts (conversations and recounts), with no observations in the earliest and mid-period texts, but 3 observations (8.8 %) in the current time period.

A strong element of focus group discussion about ‘change over time’ was that change in NZSL styles (more broadly than this variant) is influenced by online exposure to other SLs in the digital environment. Participants attested that they watch online content in other SLs and believe that this contributes to ‘mixing’ and change in NZSL, for example:

*“There is an influence on signing style, and an influence on language being used . . . sometimes in online posts and chatting face-to-face there can be signs borrowed from overseas. . . like there will be ‘ASL style’ and ‘NZSL style’. I’ve noticed a difference between the two”.*

One person recounted that they sometimes emulate overseas SL users they see online:

*“ . . . on Facebook there are lots of [overseas] videos of people signing (. . .) I do watch some if they look interesting and are short (. . .) Some are good signers and funny. If a signer uses a lot of facial expressions, I might go ‘Oh that’s a good idea’ and copy them a bit.”*

Another observed that “when people watch a video online they might see a sign they like and start using it.” While such observations of external influence were not negatively evaluated, some participants did express the prospect that online exposure is ‘globalising’ SL practices, for example:

*“ . . . things are changing. In the past each country had their own ‘official’ sign language, but now languages are mixing all around the world. And international sign has begun, I’ve noticed that. Maybe in the future there will just be one sign language around the world.”*

While these experiences and perceptions are not unique to SL users in New Zealand, they were prompted by review examples of specific features demonstrated in contemporary NZSL texts; as such, these explanations do inform us about dimensions of wider social change that such ‘modern’ genre features index within local language ideologies.

#### 7.2.5. Politeness

Relational considerations were evident in participants’ ideas about the perceived reception of pointing variants. Participants described whole-hand pointing with adjectives including ‘respectful’, ‘gentle’, ‘nice’, ‘polite’. They surmised that with an unknown audience and limited control over the spatial and temporal reach of online posts, signers err towards a more careful or polite style:

*“Filmed signing is prepared and clear because it’s permanent and will be sent wider. So maybe it’s more prepared, more polite, and formal.”*

*“On a Facebook group, most people know that anyone could be watching and so they are more polite.”*

In focus group discussions, it became evident that ‘politeness’ may imply accommodation to the sensibilities of non-Deaf people. One participant conjectured that increasing contact with hearing interlocutors, in general, has affected current NZSL pointing practices:

*“I think there’s been an influence from hearing culture with hearing people saying that an index-finger point is rude, and from that we have seen whole-handed pointing as a politeness move that’s come from hearing culture.”*

This participant didn’t elaborate exactly how the influence of hearing culture on the NZSL community might have grown, but it is a fact that NZSL users’ participation in a range of public domains has expanded rapidly this century, bringing an awareness that hearing people are frequently onlookers to their signing practices and those of interpreters (both in-person and online). Growth of NZSL teaching has also brought numbers of hearing people into traditionally Deaf social spaces, with some observed effects on language practices ([Pivac Alexander et al., 2021](#)). In these ways, greater mutual scrutiny between Deaf and non-Deaf people has likely prompted accommodation by NZSL users to the norms of

dominant hearing cultures. For example, one participant commented that they noticed that hearing presenters on television talk shows and panel moderators use an open-hand gesture to assign turns or refer to speakers (in accordance with evidence from Fenlon et al., 2019), which they saw as a polite convention that they too adopt in situations which involve non-Deaf people (such as mixed meetings). The following exchange between four participants in a focus group illustrates a perceived contrast between Deaf and hearing norms for pointing:

P1: “I think [whole hand] is more polite, more formal. Pointing [index] can be seen as rude possibly.”

P2: “That’s hearing culture, not Deaf culture.”

P3: “ Yes – Deaf culture is [index] pointing.”

P4: “If it’s all Deaf people in the audience then I think you would use index pointing.”

Our data provides some supporting evidence for this theory. Comparing the use of PRO2(B) in planned texts delivered in online and in-person settings—both of which might be expected to elicit more ‘formal’ address—revealed a difference related to audience and function. The stage presentations in our dataset were delivered at a conference of NZSL teachers to a predominantly Deaf audience. While proportionally, the PRO2(B) form appeared more in stage presentations than in online posts, closer examination shows that whole-hand points in this context nearly always carried meaning additional to pronominal reference. Out of 21 instances of PRO2(B), eight functioned as overt turn regulation, such as inviting another person to take the floor (‘over to you’). A further seven instances of whole-hand pointing towards the audience invited response or acknowledgement from the audience (‘What do you think?’/ ‘Isn’t that so?’). In a few tokens, the open hand combines audience address with distributive meaning (‘for you all’). Such instances in the data (although coded as PRO points for inclusivity) appeared to function semantically less as pronominal address and more like palm-addressed attributive gestures (Kendon, 2004) or palm-up, as described for turn regulation (McKee and Wallingford, 2011). In clear semantic and syntactic contexts of direct address to individual or collective audience members, the index finger point was used more frequently as per the Deaf norms identified by P3 and P4 in the discussion above. The fact that index pointing is evident even in a formal conference setting is perhaps an indication that solidarity and familiarity between the presenters and their audience (in this case, known colleagues and community members) are stronger factors in selecting the unmarked form of PRO2 address than the apparent formality of the setting.

In online posts, where addressees are not physically present and the signer cannot hand over the floor or invite direct feedback (as per the onstage uses described above), there must be other, intersubjective reasons for using the whole-hand form. Focus group comments suggest that whole-hand pointing in this context signals a signer’s stance as ‘welcoming’ – for instance:

“Deaf people doing announcements [in the data clips] using whole-hand pointing looked more welcoming, and it’s important to do that.”

Such evaluations reveal awareness that online presenters of information often represent an organisation or group beyond themselves, and that their stylistic choices project a certain persona or stance (such as, professional, welcoming, respectful). This aligns with the theory that variants become indexical of particular speaker qualities or stances through the associations hearers make in repeated discourse situations (Eckert and Labov, 2017).

#### 7.2.6. Māori context

Some participants expressed a belief that pointing with the index finger is impolite in relation to Māori culture. Revitalisation of the Māori language in recent decades has increased all New Zealanders’ exposure to Māori language and culture in everyday life, and the use of Māori language in public and institutional settings such as formal opening and closing of meetings is now expected (Albury, 2015). Recognition of NZSL and greater accessibility provision has also enabled Māori Deaf people to participate more in Māori community contexts with interpreters. These wider societal changes have converged to increase the NZSL community’s awareness of Māori cultural norms in recent years. Our data suggest that some signers may select whole-hand pointing in some contexts in deference to perceived Māori discourse norms. In a recent study of language practices and ideologies of a Māori Deaf community of practice (Simchowitz, 2023), some participants recounted being told by a hearing Māori elder not to point with the index finger, especially to present individuals. In our focus groups, related ideas were expressed, with one participant asserting a contrast between NZSL and (hearing) Māori norms:

“The Deaf cultural way is to use the pointing handshape, and the Māori cultural way is to use the whole handshape. That’s for respect.”

Another explained pointing preference in relation to their own identity as well as the cultural setting:

*"I'm not Māori. If I was in a marae, I would show respect [by using the whole hand]. But for myself, when I am just chatting in NZSL, I would use the [index] pointing handshape."*

Simchowitz (2023) found that some Māori Deaf individuals observed whole-hand pointing to be a co-speech gesture used by hearing Māori orators in formal speechmaking, and adopted this to signal their ethnic identity, especially when public speaking (signing) in a (formal) Māori context. Some participants in that study generalised that context-specific practice to characterise whole-hand pointing as a respectful, Māori-aligned form of pointing, and a similar idea was expressed in our focus groups.

As Table 3 shows, in our data PRO2(B) was proportionally used slightly less frequently by Māori signers (11.2 %) than by Pākehā/NZ European signers (12.4 %), and was used most often (17.0 %) by other ethnic identities. Ethnic identity was found not to be statistically significant determiner when tested independently, and was not included in a multiple effects model. The perceived association of whole-hand address with Māori identity is not supported empirically in this dataset. To examine whether a Māori-related text or context (rather than identity per se) might prompt use of PRO2(B), we looked at examples of two texts in our data where the identity of the signer and content were both Māori-aligned:

1. A public online announcement inviting Māori Deaf people to a hui (meeting/conference).
2. A stage presentation about incorporating Māori culture in an NZSL teaching curriculum.

The only time the whole-hand form was used by the first signer was in an NZSL rendition of a fixed greeting with plural reference: 'Kia ora **koutou katoa**' ('greetings to you all').

The second signer's tokens of PRO2(B) all served interactional functions of inviting a response or assigning a turn, as previously described in stage presentation uses which resemble 'palm-addressed/up' gestures. Both these Māori signers used the index finger form in all other instances of PRO2 address. These findings support Simchowitz and McKee (2025) conclusion that whole-hand pointing is not necessarily a marker of Māori signing style or identity, per se, but rather may be intentionally adopted in certain Māori-aligned contexts to "fulfil immediate interactional and relational goals" (Snell, 2010: 651).

## 8. CONCLUSIONS

Language recognition has expanded communicative domains and functions of NZSL, and digital tools have enabled online, asynchronous dissemination of informative texts in NZSL to mass audiences. These social changes have given rise to new text types in NZSL and altered the parameters of social interaction between NZSL users from pre-internet conditions of interpersonal communication in shared physical spaces. Signers of informative online texts in NZSL are often mediating information on behalf of an entity which is distinct from their everyday personal identity, and such, they adopt stylistic resources to construct a different stance in relation to their audience. The use of honorific second person address is one such stylistic feature that is routinely employed to instantiate a different genre and persona.

Quantitative analysis of use of whole-hand PRO2 in a video dataset of differing text types and modes found that, independently, plurality (of reference), genre and (planned) text type were significant factors. Analysis of texts recorded in differing time periods also showed the use of whole-hand PRO2 to be a contemporary usage, but one that is not confined to younger signers.

Qualitative insights from signers' discussions of examples from the video data revealed that variation between index finger and whole-hand pronominal address carries significant and agreed-upon social meaning as a feature of this online genre of NZSL. Metapragmatic commentaries generally aligned with the quantitative results: signers recognise whole-hand PRO2 address as a modern feature and associate it with formality, mass audience, and online modality. Furthermore, participants identified external influence from styles seen regularly in overseas SL content online. Locally, their comments suggest that awareness of onlookers outside the Deaf community (in online and in-person environments) informs values about what constitutes 'polite' forms of pointing. In particular, focus group data reveal how a societal emphasis on respecting cultural diversity, especially with regard to Māori, has led some NZSL users to re-evaluate their own and others' pointing practices.

Strong association between the use of whole-hand audience address and planned texts, both onstage and online, suggest that signers perceive this feature as having been re-mediated into an online style from its antecedent as a feature of in-person public speaking. Comparison of current public speaking texts shows that in a face-to-face context, the whole-hand PRO form is mostly associated with plural or non-specific address and also with turn management, whereas

index pointing is used for nearly all instances of specific PRO2 audience address. In the online mode with an imagined, remote audience, whole-hand pointing is used more frequently for direct pronominal reference to the audience. Deaf viewers explain its use in online contexts in terms of visual salience, politeness (consideration of 'unknown' audiences), and as a signal of the signer's own stance as welcoming and professional.

Agha (2006) observes that the existence of a register over time depends upon its replication, often through mediated forms (including electronic) which link people and register stereotypes to each other over space and time. This study has shown such effects in progress in one feature of NZSL that is being replicated in an online medium. Repeated online exposure to this genre feature not only in NZSL, but virtually in other SLs, supports accelerated transmission and conventionalization of 'honorific' pronominal pointing as an expected feature of public address more generally.

As we continue to explore features associated with emerging genres in NZSL, we need to acknowledge the difficulties of studying variation in a smaller language using corpus-based approaches. The small number of data points for individual variables and difficulty of finding comparable diachronic data for historical comparison pose limitations on the use of quantitative methods for studying variation and change. An integrative pragmatics approach (Haugh and Culpeper, 2018) which also draws on the interpretation of qualitative data was useful in capturing a speaker-centered understanding of the situated meaning of this variation. Metapragmatic perspectives enriched, although at times diverged from, quantitative findings from the data. The study contributes to a growing body of research (see Meyerhoff et al., 2020) that considers the extent to which non-standardised languages, or languages that have loose and often polycentric standards, including most signed languages, develop forms of style shifting, or genre-based variation in response to change in the wider social context.

## CREDIT AUTHORSHIP CONTRIBUTION STATEMENT

**Rachel McKee:** Writing – review & editing, Writing – original draft, Project administration, Methodology, Funding acquisition, Formal analysis, Conceptualization. **Mireille Vale:** Writing – review & editing, Writing – original draft, Methodology, Formal analysis, Data curation. **George Major:** Writing – review & editing, Writing – original draft, Methodology, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Sara Pivac Alexander:** Writing – review & editing, Methodology, Funding acquisition, Data curation. **Miriam Meyerhoff:** Writing – review & editing, Formal analysis, Conceptualization.

## Data availability

The authors do not have permission to share data.

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## References

- Agha, A., 2006. *Language and Social Relations*. Cambridge University Press, Cambridge, UK.
- Ahlin, T., Hiddinga, A., 2023. Technological socialities: the impact of information and communication technologies on belonging among deaf and hard-of-hearing people. *Sociol. Compass*. <https://doi.org/10.1111/soc4.13068>.
- Albury, N.J., 2015. Your language or ours? Inclusion and exclusion of non-indigenous majorities in Māori and Sámi language revitalization policy. *Curr. Issues Lang. Plan.* 16, 315–334. <https://doi.org/10.1080/14664208.2015.984581>.
- Barberà, G., Zwets, M., 2013. Pointing and reference in sign language and spoken language: anchoring vs. identifying. *Sign Lang Stud* 13, 491–515. <https://doi.org/10.1353/sls.2013.0016>.
- Bates, D., Mächler, M., Bolker, B., Walker, S., 2015. Fitting linear mixed-effects models using lme4. *J. Stat. Softw.* 67, 1–48. <https://doi.org/10.18637/jss.v067.i01>.
- Bawarshi, A.S., Reiff, M.J., 2010. *Genre: An Introduction to History, Theory, Research, and Pedagogy*. Parlor Press and the WAC Clearinghouse, West Lafayette, Indiana, Indiana.
- Bayley, R., Lucas, C., Rose, M., 2002. Phonological variation in American Sign Language: the case of 1 handshape. *Lang Var Change* 14, 19–43. <https://doi.org/10.1017/S0954394502141020>.
- Beal-Alvarez, J.S., Trussell, J.W., 2015. Depicting verbs and constructed action: necessary narrative components in deaf adults' storybook renditions. *Sign Lang. Stud.* 16, 5–29. <https://doi.org/10.1353/sls.2015.0023>.

- Berenz, N., 2002. Insights into person deixis. *Sign Lang. Linguist.* 5, 203–227. <https://doi.org/10.1075/SLL.5.2.06BER>.
- Biber, D., 1988. *Variation Across Speech and Writing*. Cambridge University Press, Cambridge.
- Bolker, B., Robinson, D., 2024. broom.mixed: Tidying methods for mixed models. R package version 0.2.9.5.
- Bolly, C., Gabarró-López, S., Meurant, L., 2015. Pragmatic gestures at the gesture-sign interface. Nonmanuals and palm-up gestures among older Belgian French speakers and French Belgian Sign Language signers. Gottingen.
- Braun, V., Clarke, V., 2019. Reflecting on reflexive thematic analysis. *Qual. Res. Sport Exerc. Health* 11, 589–597. <https://doi.org/10.1080/2159676X.2019.1628806>.
- Brown, R., Gilman, A., 1960. The pronouns of power and solidarity. In: Sebeok, T.A. (Ed.), *Style in Language*. MIT Press, Cambridge, Massachusetts, pp. 253–276.
- Byrne, E., 1994. *The Formation of Relationships on Internet Relay Chat* (Unpublished honors thesis). University of Western Sydney.
- Cohen-Koka, S., Nir, B., Meir, I., 2023. The case of mouth action in Israeli Sign Language discourse. *Sign Lang. Stud.* 23, 197–242. <https://doi.org/10.1353/SLS.2023.0002>.
- Cormier, K., Schembri, A., Woll, B., 2013. Pronouns and pointing in sign languages. *Lingua* 137, 230–247. <https://doi.org/10.1016/J.LINGUA.2013.09.010>.
- Coupland, N., 2014. Language change, social change, sociolinguistic change: a meta-commentary. *J. Socioling.* 18, 277–286. <https://doi.org/10.1111/josl.12077>.
- Coupland, N., 2007. *Style: Language Variation and Identity*. Cambridge University Press.
- Coupland, N., 2001. Age in social and sociolinguistic theory. In: Coupland, N., Sarangi, S., Candlin, C.N. (Eds.), *Sociolinguistics and Social Theory*. Routledge, London.
- Crasborn, O., 2005. On the use of the two hands in sign language poetry: a case study of the NGT poet Wim Emmerik. *Lingua*.
- Crasborn, O., Sloetjes, H., 2008. Enhanced ELAN functionality for sign language corpora. In: *Proceedings of LREC 2008, Sixth International Conference on Language Resources and Evaluation*, pp. 39–43.
- Eckert, P., 2018. *Meaning and Linguistic Variation: The Third Wave in Sociolinguistics*. Cambridge University Press.
- Eckert, P., Labov, W., 2017. Phonetics, phonology and social meaning. *J. Socioling.* 21, 467–496. <https://doi.org/10.1111/josl.12244>.
- ELAN, 2023.
- Enari, D., Keung, S., 2023. ‘You can’t speak what you can’t hear’ – how Māori and Pacific sports stars are helping revitalise vulnerable languages [WWW Document]. *Conversation*.
- Fedina, M., 2015. Assessment of new terms in the Komi language. *Linguist. Uralica* 51, 290–298.
- Fenlon, J., Cooperrider, K., Keane, J., Brentari, D., Goldin-Meadow, S., 2019. Comparing sign language and gesture: insights from pointing. *Glossa* 4. <https://doi.org/10.5334/GJGL.499>.
- Fenlon, J., Schembri, A., Rentelis, R., Cormier, K., 2013. Variation in handshape and orientation in British sign language: the case of the “1” hand configuration. *Lang. Commun.* 33, 69–91. <https://doi.org/10.1016/j.langcom.2012.09.001>.
- Fenlon, J., Schembri, A., Rentelis, R., Vinson, D., Cormier, K., 2014. Using conversational data to determine lexical frequency in British Sign Language: the influence of text type. *Lingua* 143, 187–202. <https://doi.org/10.1016/j.lingua.2014.02.003>.
- Ferrara, L., 2012. *The Grammar of Depiction: Exploring Gesture and Language in Australian Sign Language (Auslan)* (Unpublished Doctoral Thesis). Macquarie University, Sydney, Australia.
- Fremer, M., 2023. The formalisation of address practice in Swedish in a historical perspective. *J. Hist. Pragmat.* 24, 179–197. <https://doi.org/10.1075/jhp.00067.fre>.
- Gabarró-López, S., 2019. What can discourse markers tell us about genres and vice versa? A corpus-driven study of French Belgian Sign Language (LSFB). *Lidil*. <https://doi.org/10.4000/lidil.6768>.
- Gabarró-López, S., Meurant, L., 2014. The use of buoys across genres in French Belgian Sign Language (LSFB). In: *Actes du IXe colloque de linguistique des doctorants et jeunes chercheurs du Laboratoire MoDyCo (COLDOC 2013): La question des genres à l’écrit et à l’oral*, pp. 43–54.
- Giltrow, J., Stein, D., 2009. Genres in the internet: innovation, evolution, and genre theory. In: Giltrow, J., Stein, D. (Eds.), *Genres in the Internet: Issues in the Theory of Genre*. John Benjamins Publishing Company, pp. 1–25.
- Halliday, M.A.K., 1978. *Language as Social Semiotic*. Edward Arnold, London.
- Haugh, M., Culpeper, J., 2018. Integrative pragmatics and (im)politeness theory. In: Ilie, C., Norrick, N.R. (Eds.), *Pragmatics and Its Interfaces*. John Benjamins Publishing Company, pp. 213–239. <https://doi.org/10.1075/pbns.294.10hau>.
- Hiddinga, A., Crasborn, O., 2011. Signed languages and globalization. *Lang. Soc.* 40, 483–505. <https://doi.org/10.1017/S0047404511000480>.
- Holmes, J., 2018. Sociolinguistics vs pragmatics. Where does the boundary lie? In: Ilie, C., Norrick, N.R. (Eds.), *Pragmatics and Its Interfaces*. John Benjamins, Amsterdam, pp. 11–32. <https://doi.org/10.1075/pbns.294.02hol>.
- Horton, L. & Singleton, J. 2022. Acquisition of turn-taking in sign language conversations: An overview of language modality and turn structure. *Frontiers in Psychology*, 13 (August), 1-21. <https://doi.org/10.3389/fpsyg.2022.935342>.
- Hou, L., Lepic, R., Wilkinson, E., 2020. Working with ASL internet data. *Sign Language Studies* 21 (91), 32–67. <https://doi.org/10.1353/SLS.2020.0028>.
- Ilkbaşaran, D., 2015. Social media practices of deaf youth in Turkey: emerging mobilities and language choice. In: Friedner, M., Kusters, A. (Eds.), *It’s a Small World: International Deaf Spaces and Encounters*. Gallaudet University Press, Washington D.C., pp. 112–124.

- Johnston, T.A., 2013. Formational and functional characteristics of pointing signs in a corpus of Auslan (Australian Sign Language): are the data sufficient to posit a grammatical class of “pronouns” in Auslan? *Corpus Linguist. Linguist. Theory* 9, 109–159. <https://doi.org/10.1515/cllt-2013-0012>.
- Johnston, T.A., 2012. Lexical frequency in sign languages. *J. Deaf Stud. Educ.* 17, 163–193.
- Johnston, T.A., Schembri, A., 2007. *Australian Sign Language (Auslan): An Introduction to Sign Language Linguistics*. Cambridge University Press, Cambridge.
- Kasper, G., 1990. Linguistic politeness: current research issues. *J. Pragmat.* 14, 193–218. [https://doi.org/10.1016/0378-2166\(90\)90080-W](https://doi.org/10.1016/0378-2166(90)90080-W).
- Kendon, A., 2004. *Gesture: Visible action as utterance*. Cambridge University Press.
- Kendon, A., Versante, L., 2003. Pointing by hand in “Neapolitan”. In: Kita, S. (Ed.), *Pointing: Where Language, Culture, and Cognition Meet*. Lawrence Erlbaum Associates, Mahwah, New Jersey, pp. 109–137. <https://doi.org/10.4324/9781410607744>.
- Kerbrat-Orecchioni, C., 2018. Politeness in France: how to buy bread politely. In: Hickey, L., Stewart, M. (Eds.), *Politeness in Europe*. Multilingual Matters, pp. 29–44. <https://doi.org/10.21832/9781853597398-004>.
- Kiesling, S., 2009. Style as stance: can stance be the primary explanation for patterns of sociolinguistic variation? In: Jaffe, A. (Ed.), *Sociolinguistic Perspectives on Stance*. Oxford University Press, pp. 171–194.
- Kusters, A., 2020. The tipping point: on the use of signs from American Sign Language in International Sign. *Lang. Commun.* 75, 51–68. <https://doi.org/10.1016/j.langcom.2020.06.004>.
- Kusters, A.M., 2021. International Sign and American Sign Language as different types of global deaf lingua francas. *Sign Lang. Stud.* 21, 391–426. <https://doi.org/10.1353/sls.2021.0005>.
- Kusters, A.M., Friedner, M.I., 2015. Introduction: DEAF-SAME and difference in international deaf spaces and encounters. In: Friedner, M.I., Kusters, A.M.J. (Eds.), *It’s a Small World: International Deaf Spaces and Encounters*. Gallaudet University Press, Washington D.C., pp. ix–xxix.
- Lepic, R., 2019. A usage-based alternative to “lexicalization” in sign language linguistics. *Glossa: J. General Linguist.* 4. <https://doi.org/10.5334/gjgl.840>.
- Liddell, S.K., 2003. *Grammar, Gesture, and Meaning in American Sign Language*. Cambridge University Press.
- Lumivero, 2023. NVIVO.
- Major, G., Pivac, L. & Ovens, S. 2017. Deaf health stories in NZSL. [YouTube video].
- McKee, R., 1992. *Footing shifts in American Sign Language lectures* (Unpublished Doctoral Thesis). University of California, Los Angeles.
- McKee, D., McKee, R., Pivac Alexander, S., Pivac, L., Vale, M., 2011. *Online Dictionary of New Zealand Sign Language*. Online Reference Work. Victoria University of Wellington.
- McKee, R., McKee, D., 2020. Globalization, hybridity, and vitality in the linguistic ideologies of New Zealand Sign Language users. *Lang. Commun.* 74, 164–181. <https://doi.org/10.1016/j.langcom.2020.07.001>.
- McKee, R., Pivac Alexander, S., 2024. Teaching sign language remotely in the COVID-19 pandemic. *Lang. Learn. J.* 52, 597–613. <https://doi.org/10.1080/09571736.2023.2293010>.
- McKee, R., Vale, M., Major, G., Pivac Alexander, S., Meyerhoff, M., 2024. “Two hands are powerful”. Handedness variation and genre in New Zealand Sign Language. *Lang. Commun.* <https://doi.org/10.1016/j.langcom.2024.07.003>.
- McKee, R., Vale, M., Pivac Alexander, S., McKee, D., 2022. Signs of globalization: ASL influence in the lexicon of New Zealand Sign Language. *Sign Lang. Stud.* 22, 283–319.
- McKee, R., Wallingford, S., 2011. “So, well, whatever”: discourse functions of palm-up in New Zealand Sign Language. *Sign Lang. Linguist.* 14. <https://doi.org/10.1075/sll.14.2.01mck>.
- Mesch, J., Kaneko, M., 2017. Signed renga: exploration of collaborative forms in sign language poetry. *Afr. Stud.* 76, 381–401. <https://doi.org/10.1080/00020184.2017.1346341>.
- Meyerhoff, M., Ravindranath Abtahian, M., Gafter, R.J., Horesh, U., Kasstan, J.R., Keegan, P., King, J., 2020. Styles, standards and meaning: issues in the globalisation of sociolinguistics. *Lang. Ecol.*, 1–15. <https://doi.org/10.1075/le.00006.mey>.
- Morford, J., 1997. Social indexicality in French pronominal address. *J. Linguist. Anthropol.* 7, 3–37. <https://doi.org/10.1525/jiin.1997.7.1.3>.
- Morford, J.P., MacFarlane, J., 2003. Frequency characteristics of American Sign Language. *Sign Lang. Stud.* 3, 213–225. <https://doi.org/10.1353/sls.2003.0003>.
- Nicodemus, B., Formentelli, M. Cagle, K.M & Pittman, J. 2021. Address practices of Deaf undergraduate students and faculty: A study of language, identity and community. *Journal of pragmatics*, 176, 110–123. <https://doi.org/10.1016/j.pragma.2121.01.024>.
- Norby, C., Wide, C., 2015. Introduction: address as social action across cultures and contexts. In: Norby, C., Wide, C. (Eds.), *Address Practice as Social Action: European Perspectives*. Palgrave Pivot, pp. 1–12. <https://doi.org/10.1057/9781137529923.0006>.
- Paligot, A., Meurant, L., 2016. Weak hand lowering across signing styles of French Belgian Sign Language (LSFB). *TISLR 12*. 12th International Conference on Theoretical Issues in Sign Language Research.
- Perniss, P., 2007. Achieving spatial coherence in German Sign Language narratives: the use of classifiers and perspective. *Lingua* 117, 1315–1338.
- Perniss, P., Zeshan, U., 2008. Possessive and existential constructions: Introduction and overview. In: Zeshan, U., Perniss, P. (Eds.), *Possessive and Existential Constructions in Sign Languages*. Ishara Press, Nijmegen, pp. 1–31.

- Pivac Alexander, S., McKee, R., McKee, D., 2021. Sign names in an intercultural classroom space: practices and perceptions of sign language teachers and students. *Lang. Intercult. Commun.* 21, 646–662. <https://doi.org/10.1080/14708477.2021.1932966>.
- Pfau, R., 2010. A point well taken: on the typology and diachrony of pointing. In: Mathur, G., Napoli, D.J. (Eds.), *Deaf around the World: The Impact of Language*. Oxford University Press, Oxford, UK, pp. 144–163. <https://doi.org/10.1093/acprof:oso/9780199732548.001.0001>.
- Quinto-Pozos, D., 2007. Why does constructed action seem obligatory? An analysis of “classifiers” and the lack of articulator-referent correspondence. *Sign Lang. Stud.* 7, 458–512.
- R Core Team, 2023. R: A language and environment for statistical computing.
- Roush, D.R., 2011. Language between bodies: a cognitive approach to understanding linguistic politeness in American Sign Language. *Sign Lang Stud* 11, 329–374. <https://doi.org/10.1353/sls.2011.0000>.
- Roy, C.B., 1989. Features of discourse in an American Sign Language lecture. In: Lucas, C. (Ed.), *The Sociolinguistics of the Deaf Community*. Academic Press, New York, pp. 231–251.
- Russo, T., Giuranna, R., Pizzuto, E., 2001. Italian Sign Language (LIS) poetry: iconic properties and structural regularities. *Sign Lang. Stud.* 2, 84–112. <https://doi.org/10.1353/sls.2001.0026>.
- Sáfar, A., Crasborn, O., 2013. A corpus-based approach to manual simultaneity. In: Sinté, A., Meurant, L., van Herreweghe, M., Vermeerbergen, M. (Eds.), *Sign Language Research, Uses and Practices: Crossing Views on Theoretical and Applied Sign Language Linguistics*. De Gruyter, pp. 179–204. <https://doi.org/10.1515/9781614511472.179>.
- Sallandre, M.-A., Balvet, A., Besnard, G., Garcia, B., 2019. An exploratory study of the frequency of linguistic categories in four discourse genres in LSF/Étude exploratoire de la fréquence des catégories linguistiques dans quatre genres discursifs en LSF. *Lidil*. <https://doi.org/10.4000/lidil.7136>.
- Sani, S., 1988. *Political Language as a Source of Lexical Expansion: The Case of Hausa (Doctoral Dissertation)*. Indiana University.
- Schembri, A., Cormier, K., 2022. Signed language corpora: future directions. In: Fenlon, J., Hochgesang, J.A. (Eds.), *Signed Language Corpora*. Gallaudet University Press, Washington D.C., pp. 196–220.
- Schneider, K.P., 2021. Variational pragmatics. In: *The Cambridge Handbook of Sociopragmatics*. Cambridge University Press, pp. 663–686. <https://doi.org/10.1017/9781108954105.034>.
- Shulist, S.A., 2012. Ideologies of Olympic proportions: the Aboriginal language broadcast of the Vancouver 2010 Olympic games. *Anthropologica* 54, 267–280.
- Silverstein, M., 2003. Indexical order and the dialectics of sociolinguistic life. *Lang. Commun.* 23, 193–229. [https://doi.org/10.1016/S0271-5309\(03\)00013-2](https://doi.org/10.1016/S0271-5309(03)00013-2).
- Simchowitz, M., 2023. Language practices of Māori Deaf New Zealand Sign Language users for identity expression (Masters thesis). Te Herenga Waka - Victoria University of Wellington. <https://doi.org/10.26686/wgtn.22798976>.
- Simchowitz, M., McKee, R., 2025. Constructing Māori deaf identity in New Zealand Sign Language. *Lang. Soc.* 1–25. <https://doi.org/10.1017/S0047404525000077>.
- Simper-Allen, P., Mesch, J., 2019. The use of signing space in signed news broadcasts/L'utilisation de l'espace de signation dans les émissions signées. *Lidil*. <https://doi.org/10.4000/lidil.6824>.
- Snell, J., 2010. From sociolinguistic variation to socially strategic stylisation. *J. Socioling.* 14, 630–656. <https://doi.org/10.1111/j.1467-9841.2010.00457.x>.
- Stone, C., 2011. Register, discourse, and genre in British Sign Language (BSL). In: Roy, C.B. (Ed.), *Discourse in Signed Languages*. Gallaudet University Press, pp. 121–154. <https://doi.org/10.2307/j.ctv2rh28s4.11>.
- Stone, C., 2009. *Toward a Deaf Translation Norm*. Gallaudet University Press, Washington, D.C..
- Sutton-Spence, R., 2005. *Analysing Sign Language Poetry*. Palgrave Macmillan UK, Basingstoke/New York.
- Takkinen, R., Keränen, J., Salonen, J., 2018. Depicting signs and different text genres: preliminary observations in the corpus of Finnish Sign Language. In: Bono, M., Efthimiou, E., Fotinea, S.-E., Hanke, T., Hochgesang, J., Kristoffersen, J., Mesch, J., Osugi, Y. (Eds.), *Proceedings of the LREC 2018 Workshop : 8th Workshop on the Representation and Processing of Sign Languages : Involving the Language Community*. European Language Resources Association (ELRA), pp. 189–194.
- Wang, R., 2023. Honorifics without [hon]. *Nat. Lang. Linguist. Theory* 41, 1287–1347. <https://doi.org/10.1007/s11049-022-09563-0>.
- Warschauer, M., 1998. Technology and indigenous language revitalization: analyzing the experience of Hawai'i. *Can. Modern Lang. Rev.* 55, 139–159. <https://doi.org/10.3138/cmlr.55.1.139>.
- Wilkins, D., 2003. Why pointing with the index finger is not a universal (in sociocultural and semiotic terms). In: *Pointing: Where Language, Culture, and Cognition Meet*. Psychology Press, New York. <https://doi.org/10.4324/9781410607744>.
- Wilkinson, E., 2013. A functional description of SELF in American Sign Language. *Sign Lang. Stud.* 13, 462–490. <https://doi.org/10.1353/sls.2013.0015>.
- Winston, E.A., 1991. Space and involvement in an American Sign Language lecture. In: Plant-Moeller, J. (Ed.), *Expanding Horizons: Proceedings of the 12th National Convention of the Registry of Interpreters for the Deaf, August 1991*. RID Publications, Silver Spring, MD, pp. 93–105.
- Yus, F., 2018. The interface between pragmatics and internet-mediated communication. In: Ilie, C., Norrick, N.R. (Eds.), *Pragmatics and Its Interfaces*. John Benjamins Publishing Company, pp. 267–290. <https://doi.org/10.1075/pbns.294.12yus>.
- Zimmer, J., 1989. Toward a description of register variation in American Sign Language. In: Lucas, C. (Ed.), *The Sociolinguistics of the Deaf Community*. Academic Press, San Diego, pp. 253–272.