Language Variation and Change, **20** (2008), 317–339. Printed in the U.S.A.
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doi:10.1017/S0954394508000112

Morphosyntactic and phonological constraints on negative particle variation in French-language chat discourse

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ABSTRACT

This study investigates the variable presence or absence of the negative morpheme *ne* in online French-language chat environments. The data indicate an overwhelming preference for the omission of *ne* in most instances of verbal negation, which corroborates previous studies of *ne* in everyday conversational French. VARBRUL analyses revealed four principal results: (i) subject type (i.e., noun phrase [NP], pronoun, or inferred subject) is the most influential factor; (ii) NPs favor *ne* presence irrespective of the conditioning factors considered in this study; (iii) the variable presence of *ne* is conditioned by phonological factors within the subject pronoun category; (iv) the type of second-negative present (i.e., *pas* vs. second-negative other than *pas*) influences *ne* retention in inferred subject environments.

In prescriptive Modern French, verbal negation is achieved by combining the proclitic (i.e., preverbal) negative morpheme *ne* and another noun or adverb that has a negative meaning (second-negative). When a conjugated verb form is used, *ne* precedes the verb and the second-negative follows, as in (1).

(1) Je *ne* sais *pas.*

I do not know.

Yet, the prescribed two-particle negation illustrated in (1), which is presented and portrayed as "good French" in most reference grammars (e.g., Grevisse & Goosse, 1993:1457–1458) and learner textbooks, is seldom used in everyday conversational French. Indeed, sociolinguistic research (Armstrong, 2002; Ashby, 1976, 1981, 2001; Coveney, 1996; Hansen & Malderez, 2004; Moreau, 1986; G. Sankoff & Vincent, 1977) has suggested that two-particle verbal negation has lost ground in everyday conversational French to single-particle negation with the second-negative alone, as in (2).

(2) Je Ø sais *pas.*

I do not know.

I would like to express my gratitude to Lawrence Williams for his invaluable advice during the original analysis of these data. Thanks are also due to the editors and three anonymous reviewers at *Language Variation and Change* for their critiques and suggestions for improving this article.

https://doi.org/10.1017/S0954394508000112 Published online by Cambridge University Press

Most research has analyzed the *ne* paradigm (i.e., *ne* present vs. *ne* absent) within a variationist-inspired framework (Labov, 1972), taking into consideration the speaker's age, gender, educational background, social class, and so forth, as well as a variety of morphosyntactic and lexical constraints (e.g., subject type, clause type, second-negative type). This study explores the variable use of *ne* in one modern form of communication that has yet to be extensively investigated by sociolinguists: synchronous (i.e., real-time) nonmoderated French-language Internet Relay Chat (IRC).

Synchronous nonmoderated chat, such as IRC, is one of the most popular forms of computer-mediated communication (CMC) in both the francophone and nonfrancophone world (Anis, 1999; Collot & Belmore, 1996; Dejond, 2002; Pierozak, 2003a; Werry, 1996; Williams & van Compernolle, 2007). On IRC, participants engage in real-time, many-to-many discussions in chat channels that are hosted by a network of servers (Paolillo, 2001; Pierozak, 2003c; Werry, 1996). Upon entering a chat channel, users begin to see messages from other participants in the order in which they were sent. The discussions are, in general, conversational in nature, although some researchers have commented on the lack of interactional coherency and a diminished importance of turn adjacency (Garcia & Jacobs, 1999; Herring, 1999). For an overview of the social and linguistic environment of IRC, see Paolillo (2001:182–192) and Pierozak (2003c:180–204).

In the French-language context, recent research (Pierozak, 2003a, 2003b, 2003c; van Compernolle, 2007; van Compernolle & Williams, 2007; Williams, 2006; Williams & van Compernolle, 2007, in press) has suggested that CMC users participate in a number of shared linguistic norms, some of which are closely related to norms found in nonelectronic environments (e.g., various forms of written or spoken language), but other norms have developed specifically in and for online communication. Much of the literature points to differences between online and off-line community building and maintenance when explaining the development of norms in CMC environments. As Williams and van Compernolle (2007:815) have commented, "the lack of geographical constraints and the ability to self-select one's on-line community and communication environment have played very important roles in defining many of the norms for behaviors and practices of Internet users."

In the case of *ne* use, the data analyzed in this study suggest that the discourse of IRC is similar to that of everyday conversational French in that nonstandard forms and structures, such as single-particle negation (i.e., *ne* deletion), are not only common, but are part of the complex of sociolinguistic norms established by online communities. However, the data also indicate that the variable use of *ne* occurs somewhat differently in chat discourse as compared to previous studies of everyday conversational French, which may be due—at least in part—to the text-based nature of synchronous online communication.

Pierozak's (2003c) definitive study of orthography in French-language IRC provides an extensive analysis of the influence of various forms of writing (e.g., standard or formal writing and note taking) and oral production (see also

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Helfrich, 2003). Although it may seem logical to equate online chat discourse to written speech, such a comparison should be avoided because not all language variation in chat discourse aims to imitate speech, as is sometimes the case for theatrical and literary dialogue. Indeed, forms of note taking, abbreviations, and syllabograms (i.e., single-syllable letters that represent a morpheme, word, or verbal phrase, such as *c*, pronounced [sɛ], for the subject-verb sequence *c'est*) are, in addition to imitations of oral production, very important influences on language use in IRC environments. Therefore, one must be careful to distinguish both writing and speech, as they are traditionally understood, from the spontaneous language production that occurs in the synchronous online chat environment. As Anis (1999:75) has commented:

> Il faut sans doute se méfier de la vue étroite et idéalisée que l'on a en général de l'écrit, identifié au texte publié, élaboré dans la durée et corrigé par des professionnels. Il est sans doute difficile de trancher entre une influence de l'oral sur l'écrit et un rapprochement déterminé par l'élargissement du domaine d'usage de l'écrit. De plus, le partage entre la contamination spontanée et le recours intentionnel à des effets d'oralité est pratiquement impossible à effectuer.

> We must be weary of the strict and idealized view of writing, which is associated with published texts that are elaborated over time and corrected by professionals. It is without a doubt difficult to distinguish between an influence of spoken language on written language and a rapprochement that is determined by the expansion of the use of writing. In addition, it is practically impossible to make a distinction between spontaneous contamination and the intentional use of oral characteristics.

In the present study, *ne* retention rates are compared with those reported in studies of spontaneous, unmonitored speech; however, the text-based nature of IRC environments is also taken into consideration to demonstrate to what extent chat discourse is both similar to and different from speech and writing (or written speech). For a discussion of common overgeneralizations and misconceptions about language use and variation in (English-language) CMC environments, including the link between written and oral production, see Herring (2001:616–622).

A number of sociolinguists (e.g., Paolillo, 2001; van Compernolle & Williams, 2007; Williams & van Compernolle, in press) have recently made the case for the variationist study of CMC. However, one problem facing proponents of studies of language variation in online contexts is the fact that "information about participants' 'real-life' social identities can be difficult to obtain, because they use online monikers or falsify their off-line identities by using different computer accounts" (Paolillo, 2001:181). In light of this limitation, sociolinguistic studies of CMC have predominately focused on social interaction and internal linguistic factors that condition variation among members of virtual social networks.

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Patterns of language variation, based on social networks (Milroy & Milroy, 1992) and audience design (Bell, 1984, 2001), have been documented to some extent in the literature on French-language CMC. Specifically, van Compernolle and Williams (2007) analyzed orthographic variation as it occurs in IRC, discussion fora, and moderated chat discussions. Their results indicate that perceived levels of formality and community-established norms for expected social behaviors and language use have played very important roles in defining accepted orthographic systems in these forms of CMC. Although nontraditional orthographic variants were widely used in IRC environments, which are usually informal and parallel, at least to some extent, to informal conversational speech, very few examples of nontraditional orthography were found in moderated chat discussions, which are similar to rather formal radio and television broadcast interviews with celebrities, politicians, and other types of guests. Social conflict over language use was also observed in discussion fora, where the presence of the *Comité de lutte contre le langage SMS et les fautes volontaires sur Internet* (Committee for the fight against SMS [short message service] language and voluntary errors on the Internet) causes arguments between committee members and their supporters, who see orthographic variation on the Internet as an abomination of the written French language, and forum participants who use nontraditional orthography (see also Williams, 2006).

The sociolinguistic study of CMC—in both francophone and nonfrancophone contexts—has primarily focused on language use that is particular to electronic environments (e.g., orthographic variation); yet, much of the literature assumes an influence of speech on electronic discourse (e.g., "NetSpeak," Crystal, 2001). Even though these studies have expanded our knowledge of electronic communication in and of itself and that of language varieties observed in online environments, they leave the interaction or the relationship between speech, writing, and CMC largely unaddressed. The reason for which many CMC researchers have avoided sociolinguistic and variationist analyses of electronic communication is the absence of observable and quantifiable variables such as those that are normally investigated in spoken discourse (Androutsopoulos, 2006:424). The present study aims to analyze a linguistic variable (i.e., the presence or absence of *ne*) that is exhibited in both electronic and nonelectronic environments. Therefore, this article contributes not only to the literature on CMC, but also to our understanding of a well-known and widely documented sociolinguistic variable in contemporary French.

BACKGROUND

A brief overview of the development of verbal negation in French

French—like a number of other European languages—has inherited much of its grammar and syntax from Latin, including the negation *non.*[1] In Vulgar Latin, which was spoken throughout much of France into the Middle Ages, *non* could

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be used alone with a conjugated verb form to express negation (Sancier-Chateau, 1993:93). However, as the French language distinguished itself from Vulgar Latin, *non* weakened to *nen* in the preverbal position and eventually to *ne* (or *n*' immediately preceding a vowel). Accented *non* was restricted to elliptic use in negative responses to questions and a certain number of archaisms. For a general treatment of phonology and morphology in Old French, see Pope (1961) and Rohlfs (1970).

In Old French, "*ne* constituted sufficient negation in itself" (Rickard, 1989:54) and a variety of second-negatives (e.g., *pas*, *point*, *mie*, and so forth) could be added for emphasis. Yet as second-negatives—especially *point*—were used more frequently in verbal negation, they began to lose their emphatic quality and "gradually … came to be invested with a negative meaning" (Ewert, 1969:260) in Middle and Classical French. Ashby (1981:674) has referred to the grammaticalization of second-negatives as "an innovation in French" because, in other Romance languages, "*non* and its descendents are only sporadically reinforced, especially by nouns denoting smallness or insignificance." Dauzat (1967) has argued that this development has occurred specifically in French because *ne* is too phonetically weak to express an emphatic negation; yet Rickard (1989) has commented that it was not until the 18th century that the rules of negation became fixed, when the *Académie française* decided that two-particle negation was required in direct interrogatives, and two-particle negation (primarily *ne … point*) became the standard.

Negation in Modern French follows Classical French usage (i.e., two-particle negation), although *pas* has replaced *point* as the most common second-negative. The two negative particles are said to "embrace" (i.e., surround) the conjugated verb or, in the case of an infinitival form, they precede the verb and its pronouns. Simple negation with *ne* is, however, still in use, albeit this usage is limited to a few select verbs (e.g., *pouvoir* "to be able", *savoir* "knowledge", *empêcher* "to prevent") and a limited number of nonspontaneous environments, such as proverbs (Grevisse & Goosse, 1993:1448–1450) and other fixed expressions.

Ewert (1969:260) points to the weakening of *ne* and the strengthening of second-negatives as the underlying cause of the development of single-particle negation without *ne*, noting that "*ne*, being a mere proclitic and incapable of bearing a stress, is … weakened and tends to be omitted as unessential." The omission of *ne* has not, however, been well received by purists of the French language. Dauzat (1954:218–219) has argued, for example, that by concentrating the negation on a single word (i.e., the second-negative), an expressive finesse is removed from the French language. Nonetheless, even prescriptive grammars have recognized that *ne* tends to disappear in everyday conversational French (e.g., Grevisse & Goosse, 1993:1462).

Previous research on the variable use of ne

Many researchers (e.g., Blanche-Benveniste & Jeanjean, 1986; Greive, 1984; Hausmann, 1992; Valli, 1983) have suggested that *ne* deletion was rather

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pervasive as early as the 17th century, pointing to examples of *ne* omission in the transcriptions of the speech of the young Louis XIII. Poplack and St-Amand (2007) found evidence that *ne* deletion was just as common in 19th-century Quebec as it is today. Examples of *ne* deletion have mostly been observed and documented in 17th- and 18th-century literature and theater with dialogue imitating the speech of illiterate or uneducated people of lower social classes (Martineau & Mougeon, 2003:121–122), which suggests that the variation between two- and single-particle negation has long been a sociolinguistic variable capable of indicating a speaker's social class and/or level of literacy.

Other researchers have argued, however, that *ne* deletion is a relatively recent development in French. Ayres-Bennett (1994) found that *ne* deletion was virtually nonexistent in her sources of 17th-century written speech (e.g., fictional dialogues and theatrical pieces). Pohl (1975) has argued that *ne* deletion did not become widespread until the 19th century, when the development of the railroad and greater social mobility brought about increased interaction between people from different regions of France. Ashby (1981) suspects that *ne* deletion only gained momentum in the second half of the 20th century in France. However, as Martineau and Mougeon (2003:145) note, studies based on corpora of writing and written speech, even if supposedly representative of informal conversational French, cannot substitute for oral data; therefore, it is not possible to claim that rates of *ne* deletion observed in written texts "provide an exact indication of the actual frequency of *ne* deletion in the casual conversation of social groups at different points in time."

No matter the origins of *ne* deletion, it is by now an undeniable fact that today's speakers of French seldom use *ne* in their everyday conversations. Recently, a number of variationist studies (Armstrong, 2002; Armstrong & Smith, 2002; Ashby, 1981, 2001; Coveney, 1996; Hansen & Malderez, 2004) have reported low frequencies of *ne* retention in the everyday conversational French of France. In addition, near-categorical omission of *ne* has been documented in Montreal French (G. Sankoff & Vincent, 1977), Ottawa-Hull French (Poplack & St-Amand, 2007), and Swiss French (Fonseca-Greber, 2000, 2007). Armstrong and Smith (2002:39) even note that "*ne* deletion is spreading to highly monitored speech styles," which normally favor the use of two-particle negation. Ashby (2001) and Hansen and Malderez (2004), who conducted real-time studies of negative particle variation in everyday conversational French, have provided evidence of a diminished importance of demographic factors, such as the speaker's age, education level, and geographic origin, on the variable presence of *ne*. However, *ne* remains an important sociolinguistic resource capable of signaling various aspects of the speaker's social identity and the formality of the communicative context (Armstrong & Smith, 2002; Hansen & Malderez, 2004). In the present study, social factors are not considered because chat environments offer a great deal of anonymity; therefore, it is impossible to gather credible demographic data about participants' off-line social identity (Paolillo, 2001:181). However, surveys suggest that the average Internet user is young (under 25) and belongs to the middle or upper-middle class (see Pierozak,

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2003c:208–209); therefore, informants in the present study most likely represent a young demographic from a comfortable socioeconomic background, even if we cannot be certain of each individual's off-line identity. In light of this limitation, this article analyzes a number of internal linguistic factors that have been shown to influence the variable use of *ne* in everyday conversational French, which are highlighted in the following review, and analyzes the variable presence or absence of *ne* within the system as a whole.

The phonological environment surrounding the *ne* position—regardless of its presence or absence—appears to influence the variable use of *ne.* Ashby (1981:677) notes that *ne* is "likely to be retained postpausally … and in intervocalic position, provided one of the vowels is nasal." However, Ashby found no evidence of regressive nasal assimilation when a consonant precedes the *ne* position, which differs from what appears to occur in Montreal French (see G. Sankoff & Vincent, 1977). In addition, Coveney (1996:78) provides the following examples of coalescent assimilation: *je sais pas* [ʃɛpɑ] and *je suis pas* [ʃɥi pɑ]. In these cases, not only is the schwa deleted, but [ʒ] and [s] are combined, producing [ʃ]. According to Coveney (1996:78), "in such instances, when the phonological environment is so radically different according to whether the *ne* is present or absent, it seems more reasonable to say that the grammar is constraining the phonology, rather than vice versa."

Tokens of negation found in one phonological environment have, however, been considered impossible to study: the presence of [n] preceding a verb that begins with a vowel (or vowel sound). Because *ne* [nə] becomes *n′* [n] in the prevocalic position, it is very difficult—if not impossible—to distinguish prevocalic [n] of the negative particle *ne* from [n] resulting from liaison. For example, the sentence *on n′est pas* "one is not" is, phonetically, the same as *on est pas* "one is not" (i.e., both sentences are pronounced [õnɛpɑ]). This particular environment does not lend itself to the study of *ne* use in spoken French; thus, tokens of negation in this phonological environment have been excluded from previous studies (see Armstrong & Smith, 2002; Ashby, 1981, 2001; Coveney, 1996; Hansen & Malderez, 2004).

A certain number of morphosyntactic and lexical factors have also been demonstrated to influence the variable use of *ne;* specifically, second-negative type, particular collocations, grammatical subject, and sentence type have been found to be important differentiating factors (see Armstrong & Smith, 2002; Ashby, 1981; Coveney, 1996; Hansen & Malderez, 2004). According to Armstong and Smith (2002), more frequently occurring second-negatives—most notably *pas*—co-occur less frequently with tokens of *ne*, confirming what Ashby (1981) and Coveney (1996) had previously found in their respective corpora. Results reported by Hansen and Malderez (2004) suggest that frequency of occurrence influences the retention of *ne* in Parisian French as well. Hansen and Malderez (2004) consider [*pas* + adverb] sequences separately from other instances of *pas.* For example, *pas tellement* "not so much," *pas vraiment* "not really," *pas du tout* "not at all" were included in the [*pas* + adverb] category, and *ne* retention was only 3.9%—a rather striking difference when compared to

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the 8.2% retention rate reported in the *pas* category. Additionally, Hansen and Malderez (2004) treated the expression *pas mal* "not bad" as a separate category, and of the 35 occurrences of this expression in the corpus, not one included *ne.* Coveney (1996:80) had previously reported similar results, which suggests that a certain number of [*pas* + adverb] combinations (especially *pas mal* and *pas cher* "not expensive") "might almost be thought of as single lexical items." These sequences disfavor *ne* retention because they occur at such high frequencies that they seem to have undergone the process of lexicalization without *ne,* albeit not entirely in all cases.

Subject type is another factor that appears to influence *ne* use. Clauses in which the subject is a noun phrase (NP) tend to favor *ne* retention, and those in which a subject pronoun is used tend to favor *ne* omission (Armstrong & Smith, 2002; Ashby, 1981; Coveney, 1996; Hansen & Malderez, 2004). Ashby (1981)—among others (specifically Fonseca-Greber & Waugh, 2003)—have suggested that subject clitics "are now in the process of becoming bound to the verb at the morphological level" (Ashby, 1981:680), which may be contributing to the loss of *ne.* Further, Moreau (1986:150–154) provides evidence that certain clitic + verb sequences are in the process of becoming lexicalized without *ne;* in particular, indefinite *il* + *falloir* or *y avoir.*

Another linguistic factor that appears to influence the variable *ne* is clause type and, by extension, verb tense and form (e.g., simple or compound, personal or impersonal). Ashby (1981) reported that *ne* was retained 31% of the time in declarative clauses, and *ne* was retained categorically in imperative clauses. Armstrong and Smith (2002) reported a high rate of *ne* retention in imperative clauses as well (95%). In addition, it has been demonstrated that *ne* retention remains relatively high in co-occurrence with negated impersonal verb forms (i.e., those that are not conjugated with a subject, such as present participles and infinitives). Ashby (1981) reported a *ne* retention rate of 68% in this environment and Hansen and Malderez (2004) reported a rate of 26.3%. Coveney (1996) and Armstrong and Smith (2002) separated infinitives and present participles and reported the following retention rates, respectively: 50% and 66.7% with present participles, 62.5% and 93.6% with infinitives.

METHODOLOGY

Data collection

The data used in this study were collected from two general discussion chat rooms found on a public IRC server to which anyone with an Internet connection has access. Data was collected over the course of 4 days for approximately 4 hr each time during the fall of 2005. The corpus comprises a wide range of conversation topics and discussions held during different times of day (afternoon and evening), as well as during both weekday and weekend times. The chat discussions were saved as text files for analysis.

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Synchronous CMC offers a rather anonymous communication environment that allows data collection to take place without the informants being aware of the observer. Moreover, informants are speaking to one another, which often reveals more about the vernacular of the speakers than do one-to-one interviews (Labov, 1972:89–90). It follows that the language observed in the present study is representative of the relatively unmonitored style of synchronous CMC, at least on this particular chat server. However, this is not to say that data collected in CMC environments is in any way superior to recorded interviews; rather, the goal of this article is to demonstrate that this form of communication may offer insight into the informal, unmonitored style of discourse represented by these data, which closely parallels, at least in some respects, spontaneous oral production.

During data collection times, the author did not actively engage in the discussion, nor did he reveal his identity as a researcher. The chat participants were—as far as can be known—unaware that observation was taking place; a preliminary analysis of the data revealed no evidence of self-monitoring as far as the variable use of negative particles is concerned (i.e., not one example of a negated sentence in which *ne* was deleted was retyped in order to include *ne*). However, it must be noted that because this type of communication occurs in a public space, the participants are certainly aware of the possibility that any number of people could be following the chat session or reading the log, and they may, therefore, monitor their language for their audience.[2] In addition, because this form of discourse takes place through a written medium (i.e., text-based messages), participants have the opportunity to revise and edit their messages, which would constitute a form of self-monitoring.

Following data collection, the transcripts of data were reviewed and analyzed, and all server- and human-generated turns were counted. For the purposes of this study, a *turn* has been defined as a message sent by a participant when he or she hits the *Enter* key (human-generated) or when the server sends a message (server-generated). This definition is not, however, unproblematic. For a discussion of turn-taking in chat, see Thorne (1999:130–221) or Williams (2003:26–67). For a general treatment of turns, see van Lier (1988).

No fewer than 14,544 human-generated turns were counted in the corpus, for a total of 78,125 human-generated words. Server-generated turns were not analyzed because the objective of this study is to investigate the variable use of *ne* by human participants engaged in chat discussions. The human-generated turns were reviewed and analyzed, and every token (i.e., occurrence) of negation was identified and coded as described in the following sections.

Defining the variable context

Every token of negation in the corpus was identified and classified according to the presence or absence of *ne*. In total, 1676 instances of negation were found in the corpus, including 208 tokens of two-particle negation (12.41%) and 1468 tokens of single-particle negation (87.59%). Tokens of two-particle negation were reviewed and instances of fixed expressions (e.g., *n'est-ce pas* "isn't it?")

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were eliminated. The expression *n'empêche que* "doesn't mean that" was also omitted because it has been lexicalized in Modern French with *ne* (Armstrong, 2002). In addition, a certain number of instances of single-particle negation were omitted as well:

Nonverbal sentences;
Lexicalized phrase involving a second-negative;
Verbal clauses (clitic subject pronoun deleted);
Nontraditional syntax.

The following excerpts of data illustrate the different types of single-particle negation not considered for analysis. Data is reproduced verbatim, without correcting errors. The negation of interest appears in italic type.

Nonverbal sentences involving a second-negative are usually short responses to questions or statements sent by another participant, as illustrated by (3). This type of single-particle negation can also be a question or statement by itself, especially when followed by an adjective, adverb, or past participle (i.e., the subject and verb are absent), as shown in (4).

(3) <Eliot> *pas* vraiment non

<Eliot> not really no

(4) <Eliot> *pas* trop oqp ange_away?

<Eliot> not too busy ange_away?

Also excluded were negated nonverbal clauses immediately preceded by a verbal clause, as shown in (5).

(5) <Prue> n′empêche que c′est pas forcément vrai, mais *pas* faux non plus Hugo :)

<Prue> albeit it's not necessarily true, but not false either Hugo :)

Lexicalized phrases included instances of the expression *pas mal,* which is generally considered to have been lexicalized without *ne* in modern French (see Coveney, 1996), although there is some debate (see Hansen & Malderez, 2004). Excerpt (6) provides an example of *pas mal* used in a verbal clause. In addition, this expression can also be used as a quantifying adverb in lieu of *beaucoup,* as shown in (7). For these reasons, the instances of *pas mal* identified in the corpus have been counted separately from other instances of single-particle negation.[3]

(6) <romanticboy> c *pa mal*

<romanticboy> it's not bad

(7) <ToUfOu> j′ai *pas mal* bossé

<ToUfOu> i worked quite a bit

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Clitic deletion occurs when chat participants attempt to reproduce the spoken form of a certain number of expressions; specifically *il faut* (8) and *il y a* (9). As in spoken French, the indefinite clitic pronoun *il* is very often deleted in chat.[4] Other examples of subject clitic deletion were also omitted, as in (10). Incidentally, these examples illustrate one way in which participants in this type of communication environment attempt to imitate certain traits of everyday conversational French. However, instances of single-particle negation in which the clitic had been deleted were not considered in final instantiation of the analysis because the absence of *ne* is obligatory when no subject clitic is present (see Coveney, 1996; Hansen & Malderez, 2004). By extension, all other instances of *y avoir* and *falloir* were eliminated, although this represents a mere seven additional omissions, none of which co-occurred with *ne* (*y avoir* = 6; *falloir* = 1). For a comparison of clitic *il* deletion as it occurs in electronic and spoken French, see van Compernolle and Williams (2007).

(8) <Prue> il *y a pas* de fontaine

<Prue> there are no fountains

(9) <Salizar> Ben il *faut pas* Petite-Peste xD

<Salizar> Well better not Petite-Peste xD

(10) <Devotion> ah non *suis pas* gentil moi :(

<Devotion> ah no i'm not nice :(

Instances of nontraditional second-negative placement in verbal negation were also omitted from the analysis; more specifically, this pertains to imperative clauses in which the second-negative precedes the verb (11), which imitates certain spoken forms (e.g., a command for a family pet or other very informal contexts).

(11) <KaM> puis *pas touche* a ma ange_away

<KaM> so no touching my ange_away

The remaining 1212 instances of verbal negation (i.e., single-particle and two-particle negation in verbal phrases where the realization of variable *ne* was possible) were considered for analysis. Table 1 compares the overall distribution of two-particle negation (i.e., *ne* present) and single-particle negation (i.e., *ne* absent) observed in the corpus.

The overall rate of *ne* retention in the present corpus is very similar to rates reported in previous studies of informal spoken French, which in itself indicates that, at least as far as overall *ne* use is concerned, the discourse of French chat resembles that of everyday conversational French. To understand better how selected factors condition the variable use of *ne* in IRC, and to compare the variation to what has been reported in previous studies of spoken French, multivariate analyses were performed with Goldvarb X (D. Sankoff,

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TABLE 1. *Observed frequency* (n) *and percentage (%) of two- and single-particle negation*

Variant	*n*	Percentage (%)
ne present	195	16.1
ne absent	1017	83.9
Total	1212	100

Tagliamonte, & Smith, 2005; henceforth GV). In the following analyses, observed frequency of *ne* retention is reported (i.e., the frequency of *ne* presence), and factor weights state the probability that *ne* will be present in a given context (i.e., $\geq .50 =$ *ne* presence favored, $\leq .49 =$ *ne* presence disfavored).[5]

CONSTRAINTS ON THE *NE* PRESENT VS. ABSENT VARIABLE

Each occurrence of verbal negation considered in the present study was coded according to five independent variables: (i) second-negative type, (ii) subject type, (iii) the phonological environment preceding the *ne* position, (iv) the phonological environment immediately following the *ne* position, and (v) sentence type. After reviewing the data, it was obvious that too few tokens of second-negatives other than *pas* were available for independent statistical analysis. Therefore, all second-negatives other than *pas* were collapsed into one category. In addition, subject type was divided into three categories: (i) NP, (ii) pronoun, and (iii) inferred subject (i.e., imperatives). Negated infinitives were not considered in the final instantiation of the analysis for this study due to a lack of occurrences.

Phonological environment was also coded. Although it may seem curious to the reader that phonology has been considered in this study, it was done to test the hypothesis that phonology is a determining factor in the variable presence or absence of *ne,* even in a text-driven form of communication such as IRC. In addition, this type of analysis may help to determine the interaction between spontaneous oral production and spontaneous written production in an electronic environment, which has been assumed in previous studies of CMC (e.g., Crystal, 2001; Pierozak, 2003c; van Compernolle & Williams, 2007; Werry, 1996), yet left largely unexplored by quantitative analyses. If synchronous CMC participants do indeed exhibit traits of oral production, including phonetic transcription or imitation of informal speech, one would expect results for negative particle variation in IRC to corroborate findings reported in previous studies of spoken French that have explored phonological constraints (e.g., Ashby, 1981).

Given interactions between phonological environment and other factor groups, particularly subject type, preceding and following phonological environments were examined independently of all other factor groups. Goldvarb found the preceding, but not the following, phonological environment to be significant. Table 2 provides the observed frequency (*n*), percentage (%), and factor weights reported by GV.

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TABLE 2. *Preceding and following phonological environments*

Factor group	*n*	*ne* retention (%)	Weight
Preceding phon. environ.			
Consonant	45/146	30.8	.71
Nasal vowel	14/64	21.9	.60
No preceding phon. environ.	22/102	21.6	.59
Vowel	114/900	12.7	.45
Following phon. environ.			
Consonant	117/691	16.9	[.51]
Vowel	78/521	15.0	[.48]
Total	195/1212	16.1	—

N.B.: In this and subsequent tables, brackets indicate that GV did not find statistical significance.

The data in Table 2 indicate that the retention of *ne* is disfavored when the phonological environment immediately preceding the *ne* position is a vowel (or vowel sound). However, when a consonant or nasal vowel precedes *ne,* it is likely that *ne* will be present. In addition, *ne* retention is favored when there is no preceding phonological environment, such as in the case of imperatives.

A separate analysis considered morphosyntactic and lexical factors (i.e., second-negative type, subject type, and sentence type). A step-up/step-down analysis was run for the three factor groups in which subject type emerged as a significant factor, as shown in Table 3. However, GV did not find second-negative type or sentence type to be significant.

The data suggest that *ne* retention does not depend on the type of second-negative present, which is indicated here by the similar rate of *ne* retention in the *pas* and second-negative other than *pas* categories, although the slight difference in *ne* retention rates between *pas* and second-negatives other than *pas* indicates that *ne* tends to occurs at relatively higher frequencies with items that occur less frequently in discourse, a conclusion made by Coveney (1996) and Hansen and Malderez (2004). Incidentally, categorical omission of *ne* was observed in *pas* + adverb sequences, such as *pas tellement* and *pas vraiment,* which corroborates results reported by Hansen and Malderez (2004), and a *ne* retention rate of 31.03% ($n = 29$) was observed for environments in which multiple second-negatives were present (e.g., *plus personne* "no one anymore"). Nonetheless, the results suggest that the variable use of *ne* does not generally depend on the type of second-negative present. This finding is in itself rather important because it suggests that *ne* deletion has become more or less generalized regardless of which second-negative is present.

The results also reveal that the variable use of *ne* does not depend on sentence type, which illustrates the extent to which *ne* deletion has become generalized in this type of discourse. However, the analysis of a larger corpus with more tokens of negative interrogative and imperative sentences might prove insightful.

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TABLE 3. *Morphosyntactic and lexical factors*

Factor group	*n*	*ne* retention (%)	Weight
Second-negative type			
Second-negative other than *pas*	52/253	20.6	[.54]
pas	143/959	14.9	[.49]
Sentence type			
Imperative	19/99	19.2	[.51]
Declarative	166/1020	16.3	[.51]
Interrogative	10/93	10.8	[.43]
Subject type			
NP	53/89	59.6	.90
Inferred subject	19/99	19.2	.58
Pronoun	123/1025	12.0	.45
Total	195/1212	16.1	—

The type of subject present (i.e., NP, pronoun, or inferred subject) was found to be significant by GV. In addition to substantives, pronominalized negative particles that function as subjects (e.g., *personne,* "nobody" *rien,* "nothing" *aucun,* "none" and so forth) were also included in the NP category because they are, historically, nouns (Grevisse & Goosse, 1993:1076). Although pronominalized negative particles often function as objects (e.g., *Je n'entends personne* "I hear no one"), as subjects they appear to be more closely related to nouns and, therefore, to their historical meaning. Incidentally, a closer analysis of second-negative subject environments, such as *personne (ne) m'écoute* "No one is listening to me," revealed that *ne* was retained at a rather high frequency similar to that of substantives such as the screen name of another participant or a common noun (second-negative subject = 53.33%; substantive subject = 61.64%).

The data shown in Table 3 indicate that *ne* retention is favored when the subject of the verb is a NP and in inferred subject environments; *ne* deletion is favored with subject pronouns. Although these results are not surprising when compared to those reported by Ashby (1981), Coveney (1996), and Hansen and Malderez (2004), they are indicative of the relationship between chat discourse and everyday conversational speech. This in itself suggests that participants are writing in this communicative environment as they would speak in informal settings, at least as far as the variable *ne* is concerned. However, writing as it is traditionally understood (e.g., letters, literature, print publications, and so forth) must be distinguished from the spontaneous language production that occurs in this synchronous text-based environment, which is a highly interactive, indeed, conversational type of discourse; therefore, it is not necessarily comparable to writing or dialogue in literature, which undoubtedly undergoes many author revisions and professional editing before being made available to its audience. Let us also recall that Hansen and Malderez (2004) have documented very high *ne* retention rates (60% with subject pronouns and as high as 75% with NPs) in the written school assignments of young children, who nearly categorically omitted the negative particle in conversational speech.

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INTERACTION OF SUBJECT TYPE AND PHONOLOGICAL ENVIRONMENT

Partition analysis: NP, inferred subject, and pronoun

Because subject type and preceding phonological environment are inextricably linked in the present study, and subject type and preceding phonological environment were both found to be significant conditioning factors in the two separate analyses, a partition analysis (Paolillo, 2002:89–93) was performed to explore this interaction. Each of the three subject type categories was treated as an independent data set because the formal phonological properties of NPs, pronouns, and inferred subject environments differ sharply, and we might expect patterns of variation to differ drastically between each set. Further, inferred subject environments were categorically coded as having no preceding phonological environment because, at least in these data, each occurrence of an imperative verb form was at the beginning of a sentence or new clause, where a pause would most likely occur in spoken French.[6] Each of the analyses arrived at different a model of variation (Table 4), which is to be expected when a partition analysis such as this is done (Paolillo, 2002:89).

The analysis of NPs indicates that *ne* was retained in 59.8% of verbal negations.[7] In the step-up/step-down analysis, GV did not find any of the factors to be significant, which suggests that *ne* is likely to be retained with a NP regardless of the morphosyntactic or phonological environment in which verbal negation occurs. This finding corroborates results reported in previous studies of *ne* in spoken French (e.g., Armstrong, 2002; Armstrong & Smith, 2002; Ashby, 1981; Coveney, 1996; Hansen & Malderez, 2004).

The analysis of inferred subject environments revealed that *ne* was present in 19.2% of negated imperatives. Second-negative type was the only determining factor in the variation. Although *ne* retention is unlikely with *pas,* indicated here by the .48 factor weight, second-negatives other than *pas* appear to favor the presence of *ne* strongly (factor weight = .87). Further, the data suggest that second-negative type is influential only in inferred subject environments, because this factor group was not significant in the analysis of NP or pronominal subjects. One possible explanation for this discrepancy is that a limited number of imperative phrases with *pas* occur and recur very frequently in this corpus (e.g., *dis pas ça,* "do not say that" *pars pas* "don't leave"), and those that involve a second-negative other than *pas* are novel structures, often used emphatically during arguments, disagreements, jokes, or banter (e.g., *ne dis plus rien* "don't say another thing"). The pragmatic/emphatic use of *ne* has been previously documented in spoken French (e.g., Armstrong & Smith, 2002; Fonseca-Greber, 2000, 2007), as well as in French chat (van Compernolle, 2007:62–71).

The separate analysis of pronouns indicated that the rate of *ne* presence is 11.8%. The step-up/step-down analysis found that the phonological environment following the *ne* position—regardless of the presence or absence of *ne*—was the only determining factor in the variation. Although the presence of *ne* appears to

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TABLE 4. *Partition analysis by subject type*

	NP		Inferred subject		Pronoun	
Factor	*n*	Weight	*n*	Weight	*n*	Weight
Second-negative						
pas	29/52 (55.8%)	[.45]	16/94 (17.0%)	.48	95/810 (11.7%)	[.50]
Other than *pas*	23/35 (65.7%)	[.57]	3/5 (60.0%)	.87	26/213 (12.2%)	[.49]
Preceding phon. environ.						
Vowel	17/25 (68.0%)	[.59]	—	—	97/875 (11.1%)	[.49]
Consonant	30/55 (54.5%)	[.46]	—	—	15/91 (16.5%)	[.60]
Nasal vowel	5/7 (71.4%)	[.55]	—	—	9/57 (15.8%)	[.57]
Following phon. environ.						
Vowel	32/47 (68.1%)	[.59]	3/9 (33.3%)	[.72]	42/464 (9.1%)	.43
Consonant	20/40 (50.0%)	[.40]	16/90 (17.8%)	[.48]	79/559 (14.1%)	.58
Sentence type						
Declarative	50/84 (59.5%)	[.50]	—	—	115/935 (12.3%)	[.52]
Interrogative	2/3 (66.7%)	[.56]	—	—	6/88 (6.8%)	[.35]
Total	52/87 (59.8%)	—	19/99 (19.2%)	—	121/1,023 (11.8%)	—

N.B.: Low *n*s for Nasal Vowels in Preceding Phonological Environment and Interrogatives in Sentence Type with NP subjects prevent us from drawing definitive conclusions.

be favored before a consonant, it is disfavored in prevocalic position. However, a cross-tabulation analysis of preceding and following phonological environments suggested that these two factors may be interacting within the pronoun category. To account for this interaction, a cross-product analysis of the surrounding phonological environment was performed.

Cross-product analysis of phonological environment in the pronoun data set

Because the results for the multivariate analysis of pronouns suggest interaction of preceding and following phonological environments, the data were recoded according to the surrounding phonological environment for cross-product analysis, a remedy suggested by Paolillo (2002:63–64) for dealing with interactions such as this. The factor groups "preceding phonological environment" and "following phonological environment" were, therefore, collapsed into four new categories: [consonant + vowel], [vowel + consonant], [consonant + consonant], [vowel + vowel]. These results are shown in Table 5.[8]

The data indicate that the combination of the preceding and the following phonological environments determines whether *ne* will be present or absent in verbal negation when a subject pronoun is used. Even though the results presented in Table 4 indicated that *ne* retention is disfavored in the prevocalic position and favored in every other environment, the cross-product analysis reveals that this is not always the case. The presence of *ne* appears to be favored in [consonant + vowel] and [vowel + consonant] environments, yet it is disfavored in intervocalic position and [consonant + consonant] environments.

The results for intervocalic position may appear counterintuitive to the reader, and they do not corroborate results reported in earlier studies of *ne* (e.g., Ashby, 1981). One possible explanation for this difference is that in spoken French, the pronoun *il* [il][9] is often reduced to [i], and it would, therefore, be coded as vowel-final. In the present study, however, *il* was coded as consonant-final because it cannot be known, nor should it be assumed, that the sender of the message intended [l] to be deleted as it would be in at least some varieties of spoken French. The motivation behind coding *il* as consonant-final is that in electronic French, clitic *il* either occurs or it is deleted; in other words, *il* is, most often, either written in its entirety or completely deleted (see van Compernolle & Williams, 2007).[10] The discrepancy between the results in this study and those reported in previous studies of spoken French are, therefore, due to the method of categorization, although the conclusions are quite possibly the same (i.e., [*il* + vowel] environments favor *ne* retention).

The presence of *ne* is disfavored in the intervocalic position because many vowel-final pronouns can be assimilated into the following vowel sound (e.g., *tu* + *es* > *t'es*; *ce* + *est* > *c'est*).[11] Therefore, *ne* deletion allows the truncated clitic to attach to the verb, which is in line with previous research on grammaticalization, whereby subject clitics are becoming bound to the verb at the morphological level (Ashby, 1977; Auger, 1994; Fonseca-Greber, 2000;

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TABLE 5. *Cross-product of preceding and following phonological environment (pronouns only)*

Factor	*n*	Weight
Second-negative		
pas	95/810 (11.7%)	[.50]
Other than *pas*	26/213 (12.2%)	[.49]
Sentence type		
Declarative	115/935 (12.3%)	[.52]
Interrogative	6/88 (6.8%)	[.35]
Cross-product: preceding and following phon. environ.		
Consonant + vowel	11/47 (23.4%)	.71
Vowel + consonant	75/515 (14.6%)	.58
Consonant + consonant	4/44 (9.1%)	.44
Vowel + vowel	31/417 (7.4%)	.39
Total	121/1023 (11.8%)	—

Fonseca-Greber & Waugh, 2003; Harris, 1978; Klausenburger, 2000; Schwegler, 1990) and are "squeezing out" *ne* in the process. Further, syllabograms such as *c* (= *c'est*), *t* (= *tu es* > *t'es*), and *g* (= *j'ai*), whose use is widespread in both affirmative and negative sentences in many varieties of French electronic discourse (van Compernolle & Williams, 2007), prevents *ne* from occurring. In the present study, *je*, *tu,* and *ce* (all counted as vowel-final) account for 762 of the 1023 tokens of pronouns, and co-occur with *ne* at very low frequencies (*je* = 12.8%; *tu* = 5.4%; *ce* = 2.8%), but other pronouns, namely *il*, *elle*, *ils*, and *elles*, co-occur with *ne* at relatively higher frequencies (19.6%). It must, however, be noted that the methodology used for encoding the phonological environment in this study is far from unproblematic, and the effects of phonology and grammaticalization in text-based electronic communication remains a widely unexplored area of investigation.

Incidentally, an analysis of [*on* + vowel] sequences, an environment in which *ne* retention was favored in Ashby (1981),[12] found that *ne* was retained in only 7.1% of negations ($n = 14$). This finding suggests that the [n] observed in negated [*on* + vowel] sequences in spoken French, which have been omitted from many previous studies, is likely the result of liaison, and not prevocalic *n'*. However, a larger corpus including a greater number of occurrences of [*on* + vowel] sequences may provide a more solid basis for making such a conclusion.

SUMMARY AND CONCLUSION

The results of this study suggest that the variable presence or absence of *ne* in French-language chat discourse parallels in many ways the variation as it has been observed and documented in previous studies of spoken French. Most indicative of the relationship between chat discourse and informal speech is the very low frequency of *ne* retention. In addition, *ne* retention is overwhelmingly

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preferred when a NP is used as a subject or no overt subject is present (i.e., imperatives), and it is strongly disfavored with subject pronouns. These same results have been reported previously in the literature concerning spoken French.

A partition analysis, considering NPs, inferred subject environments, and pronouns for separate multivariate analyses, revealed different patterns of variation within each category. First, none of the factors considered in this study was found to influence in a statistically significant way the variable presence or absence of *ne* when a NP subject was used. This finding suggests that *ne* retention is always favored when a NP subject is present, irrespective of other conditioning environments. Second, the analysis of inferred subject environments demonstrated that second-negatives other than *pas* favor *ne* retention, but negated imperatives with *pas* co-occurred infrequently with *ne.* This is most likely explained by the fact that occurrences of second-negatives other than *pas* correlated with emphatic use of *ne,* which has been discussed previously in the sociolinguistics literature (e.g., Fonseca-Greber, 2007). Last, the analysis of subject pronoun environments revealed that the surrounding phonological environment determined whether *ne* would be present or absent. Although this result is rather surprising given the text-based nature of IRC environments, it further supports claims that chat discourse is heavily influenced by informal spontaneous oral production, in which morphological truncation, assimilation, and the grammaticalization of clitic + verb sequences prevent *ne* from being present.

Although the results reported in this study are far from conclusive, subject type emerges as the most influential internal linguistic factor, and phonology is most likely a contributing or underlying factor in the variation, especially in the case of subject pronoun environments. Future studies of the variable use of *ne* should analyze the interaction between phonology and subject type, in both online and off-line contexts, to determine to what extent the two factors are linked. Further, research exploring the interaction between unmonitored speech and the spontaneous text-based language production observed in chat environments (e.g., van Compernolle & Williams, 2007) could prove rather insightful.

Although this study has undertaken a formal quantitative analysis of selected morphosyntactic and phonological constraints on variable *ne*, informal observations made during the analysis of this corpus suggest that the variable presence or absence of *ne* may also be conditioned by a number of pragmatic features of discourse. Specifically, *ne* presence tended to correlate with emphatically marked utterances, usually during jokes, banter, and arguments. This observation suggests that *ne* is not likely to disappear altogether from the French language; rather, it is in the process being strengthened as a pragmatic device capable of signaling an emphatic negation. In addition, Blanche-Benveniste (1997) reminds us that children, who often show near-categorical omission of *ne,* are capable of placing *ne* in the appropriate place when parodying the speech of elegant women, which suggests that speakers of French are aware—at least to some degree—of the social, stylistic, and pragmatic significance of *ne* variation even at a very early age. Further research focused on

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the emphatic use of *ne* (Fonseca-Greber, 2007; van Compernolle, 2007:62–71), and analyses along the intraspeaker, stylistic dimension (Armstrong, 2002; G. Sankoff & Vincent, 1977), would make an important contribution to our understanding of the complex of internal linguistic and sociopragmatic constraints on negative particle variation in spontaneous, unmonitored French, in both online and off-line communication environments.

NOTES

1. For general treatments of the history and development of the French language, see Brunot (1966), Dauzat (1954, 1967), Ewert (1969), Pope (1961), and Rohlfs (1970).

2. This project—including the data collection method—was reviewed and approved by the Institutional Review Board for the Protection of Human Subjects of the University of North Texas, project application no. 05-357. For more information about the ethics of data collection from Internet sources in the public domain, see papers in Herring (1996).

3. Not one example of *pas mal* co-occurred with *ne* in this corpus, further supporting the hypothesis that this expression has become lexicalized in French.

4. van Compernolle and Williams (2007) compare the variable deletion of *il* in the sequences *il y a* and *il faut* as it occurs in a variety of forms of CMC and informal spoken French. They conclude that the discourse of nonmoderated chat, which is being analyzed in the present study, is very similar to everyday conversational French, where impersonal *il* is very often deleted.

5. For an overview of variable rule analyses in sociolinguistics research, see Paolillo (2002), D. Sankoff (1988), and Tagliamonte (2006).

6. Note that "preceding phonological environment" could not be considered in the analysis of inferred subject environments. In addition, the factors "no proceeding phonological environment" were excluded in all three analyses because, in all but two cases, these were examples of inferred subject environments. The two remaining instances of no proceeding phonological environment were examples of subject-verb inversion (both with the *ne* present variant) in the pronoun category. These two tokens were omitted from the analysis in order to eliminate a "knock out" factor (i.e., no variation).

7. The one-level analysis also showed a very good fit to the model, according to the criteria described in Preston (1996:11) and Young and Bayley (1996:272–273).

8. Nasal vowels were collapsed with vowels because a preliminary analysis revealed very low cell counts for [nasal vowel + vowel] and [nasal vowel + consonant] environments.

9. Definite *il* accounts for 50 of the pronoun tokens.

10. Armstrong (2002:159–160) notes, however, that final [l] is often pronounced in the prevocalic position as a result of liaison in both affirmative and negative phrases. Therefore, it seems reasonable to assume that even if *il* is often reduced to [i] in speech, this may be more common preceding a consonant, but [l] is retained in the prevocalic position precisely in order to avoid hiatus. This was another motivation for coding *il* as consonant-final in the present study. In addition, Armstrong (2002:159) argues that the nature of [l] and [n] is so similar that it is often difficult to distinguish [ilɛ] from [inɛ] in rapid speech, an environment he omits in his study. Unfortunately, it is unclear how this phonological environment was handled in other studies that considered phonology as a determining factor.

11. Morphological truncation with *tu* is optional, albeit very common in many varieties of informal spoken French when *tu* precedes a vowel or vowel sound; however, it is required when *je* and *ce* immediately precede a vowel or vowel sound. For a general treatment of morphological truncation and orthographic variation in French-language chat, see Pierozak (2003c). For an analysis of orthographic variation as a sociostylistic and pragmatic resource in French-language CMC, see van Compernolle and Williams (2007).

12. Ashby (1981:677) reports that *ne* is likely to be retained "in intervocalic position, provided one of the vowels is nasal"; however, the results presented in this study suggest that this is not the case in French chat (before collapsing nasal vowels with vowels, GV reported a .38 factor weight for [nasal vowel + vowel] environments). This may be interpreted as a change that has occurred in the past 30 years (Ashby's corpus is from interviews recorded in 1976); however, the discrepancy between the nature of Ashby's oral data (sociolinguistic interviews) and that of the IRC corpus (many-to-many, unmonitored Internet chat discussions) prevents us from drawing any significant conclusions.

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