Auditory arguments – importance of sound in an argumentative discourse (An empirical study)

GABRIJELA KIŠIČEK
University of Zagreb
gkisicek@ffzg.hr

> Successfully navigating the social world requires that people accurately use nonverbal information to guide their behaviour. (Bjornsdottir, Alaei & Rule, 2017)

1. PROSODIC FEATURES IN PERSUASION PROCES

Nonverbal communication is an important part of the persuasion process and extensive research in social psychology has examined how the nonverbal behaviour of a communicator can affect recipients' attitudes and attitude change via their effects on a recipient´s perceptions of source credibility, attractiveness, or power (e.g., Aguinis et al 1998; Burgoon, Birk & Pfau, 1990). According to the Guyer et. al (2019) it has been proven that when a person is either unable and/or unmotivated to think carefully (i.e., low elaboration conditions), incidental emotions aroused by nonverbal features of the message source are either misattributed to one's attitude (i.e., positive feelings reflect a positive attitude), to the message (i.e., feeling good signals agreement with the message), or to the attitude object (i.e., the object makes me feel good, so I must like it). Although these accounts differ in their explanations, each agree that when attitudes change under low-thinking, the direction of persuasion is consistent with the direction implied by the nonverbal feature of the source.

One aspect of nonverbal behaviour that this paper is interested in is prosody or paralanguage or vocal cues (i.e. voice quality, tempo, loudness, fluency, pitch and pitch range etc.). Numerous empirical studies confirmed that voices prompt spontaneous evaluations related to attractiveness, and to character traits such as trustworthiness and dominance (Willis & Todorov 2006; Vukovic et al. 2011). These evaluations are highly consistent across observers (Oosterhof & Todorov 2008). Rezlescu et al. (2015: 367) and confirmed that perception of

trustworthiness and the credibility of the source (speaker) is highly influenced by vocal cues: “Voices, just like faces, can lead to formation of consistent trait impressions of trustworthiness, attractiveness, and dominance”.

For all those involved in communication, public speaking, rhetoric but also in argumentation, it is important to take these insights into account. For instance, vocal cues are source of many stereotypes which is highly used in advertising industry: certain voice types are used to advertise certain products (examples in Kišiček 2014; 2016; Groarke & Kišiček, 2016 etc.) but it is also important for certain professions (e.g. telephone salespersons, radio or television news journalists) and certain professional situations (e.g. job interviews). Pittam et al. (1987, 1989) investigated social perceptions among Australians whose speech is thought to contain a high degree of nasality. Highly nasal voices were rated as being lower in "status" (occupation, ambitious, intelligent, educated, influential), lower in social solidarity (friendly, sympathetic, likeable, trustworthy, helpful), and were negatively correlated with perceptions of persuasiveness. Bloom & Zajac (1999: 279) claim that nasality as highly negative voice quality is often intentionally decreased to change perception of the speaker:

> For example, in training for job interviews, applicants can adjust nasality of voice to possibly increase perceptions of competence, warmth, and persuasiveness, and to possibly decrease perceptions of arrogance or weakness.

Public speaking trainers and rhetoric scholars are also very aware that vocal cues may affect speaker’s personality traits as well as her emotional state. Therefore, it has to be taken into account in the realm of politics (practice or pedagogy) and even in judicial discourse especially when vocal cues can signal deception e.g. vocal tension, pauses, speech errors (Davis et al., 2006; DePaulo et al., 2003; DePaulo, Stone, & Lassiter, 1985; Mann et al., 2004; Vrij et al., 2000). It can be concluded that these findings are useful in all situations in which credibility and trustworthiness of a speaker are crucial.

Invoking a specific emotional response from the audience is also essential in persuasion process. According to Aristotle *pathos* is considered as mean of persuasion in which speaker is creating a certain disposition in the audience. However, it can be developed not just by verbal means but also by nonverbal means of communication (especially prosodic features). Expressing emotions (by speaker) and recognizing speaker’s emotions (by audience) via prosodic features is universal across cultures and will certainly have role in “putting audience in the right frame of mind”. Nonverbal communication scholars claim that

human expressive behaviours which communicate joy, anger, disgust, sadness, and fear are thought to possess certain invariant properties which allow them to be recognized independent of culture and learning (Ekman et al 1980). Recent reviews (Juslin & Laukka 2003; Laukka 2008) have shown that vocal expressions of these emotions (e.g., anger, fear, happiness, sadness) are generally recognized with accuracy above chance, also cross-culturally, and are associated with relatively distinct acoustic characteristics. Having these findings in mind we can imagine that verbally expressed emotional appeals can be accompanied with corresponding vocally expressed emotions of the speaker and this can contribute to developing *pathos*. When a speaker intends to create empathy, anger or fear in the audience, prosodic features will have important impact. And it can even become an essential part of an argumentative discourse (Groarke & Kišiček, 2018).

2. AUDITORY ARGUMENTS – PROSODIC FEATURES AS PART OF A *LOGOS*

Recent research in the realm of argumentation theory introduced a concept of auditory arguments (Groarke & Kišiček, 2016; Groarke & Kišiček, 2018; Groarke, 2018; Kišiček, 2019) which Groarke (2018) defines as "an attempt to provide rational evidence for a conclusion using non-verbal sounds instead of or (more frequently) in addition to words".

It means that sounds both human (prosodic features) and non-human (e.g. different sound alarms) may serve as part of a l*ogos* and contribute in (re)constructing the argument. Kišiček (2019) provided several examples of different argument schemes where sound is one of the premises (argument from sign, argument from consequences, argument from correlation to cause...). The specific scheme this paper is investigating is the argument from sign in so called testimonial claims.

As Govier (1993, p. 93) explains:

> Testimonial claims are especially important for a variety of reasons. Human knowledge is utterly dependent upon our acceptance, much of the time, of what other people tell us. Only thus can we learn language and pass on knowledge from generation to generation; only thus have we access to times, places, and cultures we do not and cannot experience ourselves.

For testimonial claims it is of great importance not only **what** is being said but also **how** it is said. For instance, imagine a man testifying a robbery, describing what he saw on the street, pointing out a person as an alleged robber but delivering his testimony with a "drunk sounding" manner of speech. Would his claim be considered as reliable? Probably not. Or one of the most common examples is irony. An irony is recognized via specific prosodic features. For instance, if we hear a man arguing how

domestic violence is one of the biggest problems of civilized world and we recognize signals of irony, that would instantly affect our perception of this man and the argument itself. We can find many examples in a real life arguing in which manner of speaking affects the strength of an argument as well as credibility of the speaker.

For the purpose of this research we assumed the credibility of a speaker (his *ethos*) being a part of an argument reconstruction in the scheme as following:

1. SPECIFIC PREMISE: Politician X has deep voice, speaks little bit louder, has no disfluencies.
GENERAL PREMISE: People who speak in specific style (deep voice, little louder, without disfluencies) are perceived as trustworthy, credible (based on previously mentioned research).
CONCLUSION: Politician X is trustworthy, credible, knows what he is saying.

Further on,

2. SPECIFIC PREMISE: Politician X is trustworthy, credible, knows what he is saying.
GENERAL PREMISE: Politician X is saying Y.
CONCLUSION: Therefore, Y is true.

We can say that argument scheme 1 is argument from sign while argument 2 is argument from authority. In many real life situations when we do not have speaker's CV in hand and we are not fully familiar with the topic (for instance, climate changes, dangers of oil exploration etc.) our decision might depend on our "perception" of speaker's credibility, our "perception" of his expertise and competence. Of course, the verbal part of his argument, the content of his speech is undoubtedly the most important but much of this credibility "perception" depends on the manner of speaking (i.e. prosodic features of his speech). Both rhetorical studies but especially argument analysis neglected these elements in their work and I believe it should be seriously considered. To make this point stronger I conducted an empirical research joining insights from nonverbal communication with argumentation analysis.

3. AUDITORY ARGUMENTS – METODOLOGY OF AN EMPIRICAL RESEARCH

Previous research (Kišiček, 2014, Kišiček 2016; Van den Hoven & Kišiček, 2017, Groarke & Kišiček, 2019) analysed examples from the public discourse (from advertising genre, journalism, judicial discourse etc.) to demonstrate the importance of prosodic features in an argumentative discourse. In some examples creators knowingly used prosody to make their argument stronger while in other examples prosodic features contributed to the argumentative discourse even without author's

intention (especially example from Van den Hoven & Kišiček, 2017; Groarke & Kišiček, 2018). However, this research deliberately manipulated prosodic features of different speakers to discover whether they will have an impact on listener's attitude and attitude change regardless of the arguments themselves (meaning that arguments remained the same while speakers with different prosody changed).

Six speakers (3 males and 3 females) read the same text (a comment from weekly newspaper) with a strong anti-immigrant standpoint. The same argumentative discourse was therefore delivered in different manner and 87 listeners assessed it. The survey was conducted on-line so one listener heard only one speaker (not all of them!) because the main intention was not for the listener to compare different argument deliveries but to decide on the argument strength. At the beginning of the survey listeners were instructed to imagine that they are listening to a politician in a European Parliament arguing against immigrants. The intention was to get as closer as possible to a real life situation. Audience is listening politicians argue, debate, deliver their arguments of a certain standpoint and then decide who to trust or for which politician to vote. However, it has to be clear, this research has no intention in belittling the importance of the verbal argument. The research is constructed in a way to examine: will the manner of speaking i.e. **how** the argument is delivered have any influence on the listener?

3.1. Argumentative text

The text used for this research was a real newspaper comment in Croatia which got a lot of attention due to increasing number of immigrants illegally crossing the border between Bosnia and Herzegovina and Croatia (the first EU country they can enter). The author of the comment is one of the public persons recognized for anti-immigrant attitude. And the topic itself is more or less in the centre of attention in Croatia (as well as in EU).

Speaker's standpoint was clearly anti-immigrant claiming they should not be given asylum in Europe. The standpoint was dominantly supported with emotional appeals (appeal to fear). The first sentence in the text is an argument presented as a fact "immigrants are terrorizing people of domicile country" and corroborated with the examples of terror: robbing houses, begging, molesting minor girls; upsetting domicile people (*Bosnian citizens are upset: immigrants sleeping in parks, muggings, begging, sexual harassment, breaking and entering, violating basic social norms like urinating in parks, defecating on inappropriate places are only some of everyday offenses*). Further on, anti-immigrant standpoint is supported by police reports on confiscation of items which can serve as a weapon (*police forces in Bihać made a raid in immigrant's*

centres and found dozens of knifes, bats, hammers and other breaking and entering tools)**.** Author of the text also uses statistics (*17% of immigrants have higher education while most of them are uneducated and only 15% of them are employed in the countries that gave them asylum while others receive welfare money. Immigrants have basic difficulties – they are unable to learn language and the effectiveness of their work is significantly lower than from European workers*) to support the "fact" of immigrant uselessness in sense of labour (they are not educated and do not wish to work) and therefore they cannot contribute to asylum country. Even more, they are on country's expense because 85% of immigrants are receiving welfare money.

To make his claim stronger, author also mentions several possible counter-arguments and then refutes it. One, and most commonly heard argument in countries of former Yugoslavia is an appeal to pity: "They are running away from war as we did once". Author sees it as manipulation and emotional appeal claiming that most of the immigrants are not war refugees but economic migrants and fugitives from law i.e. criminals *(Although there is a complete chaos in Bosnia caused by immigrants, some media is justifying it and compare it with refugee wave using emotions as manipulation. However, truth is completely different. Unlike war refugees from Syria, Yemen, Iraq or Afghanistan, in this case we are talking about economic immigrants which are using every possible situation to enter EU and to escape from law in their own countries).*

Second counter argument (used by civil right organizations) is protecting immigrant's human rights. Refutation of "civil rights argument" is pointing out hypocrisy of people representing civil rights (*Civil rights organizations claim that they require "civilized minimum" for immigrants and similarly like in Croatia, they offer their own houses to accept immigrants – but just until it actually comes to this – in practice their offer disappears*). Author refutes it with an *ad hominem* argument.

The text ends with numbers of immigrant which certain cities will have to accept under the EU directives (appeal to fear) referring to the text published in distinguished Serbian newspaper (*Serbian magazine "Today" published preliminary numbers of Demostat research about immigrants' acceptance in different Bosnian cities: Velika Kladuša 3000 immigrants, Bihać 2500, Gradiška 1500, Banja Luka 1500, Bijeljinja 2500, Travnik 2000, Sarajevo 1000, Trebinje, 2500 and most of them will be set forth Mostar, 3000 people. Of course, here is also some for Grude (1000), Čapljina (2000), Široki Brijeg (2000)*).

Argumentative text has a clear standpoint and provides different argument types to support it (appeal to fear, argument by example, statistics, arguments from authority, arguments from sign etc.) therefore, it was considered as a good corpus for the experiment.

3.2. Speakers

Argumentative text was read by 6 different speakers with different prosodic features which were deliberately manipulated to illustrate certain emotional state and personality traits of the speaker.

1. D.N. is a male speaker with higher pitch (higher than average) and softer voice quality. He also spoke with lower intensity (quieter) and with slow tempo. Argument was delivered with many disfluencies and illogical pauses. These prosodic features are connected with lower self-esteem, insecurity, lack of dominance and confidence, lack of authority.

2. D.S. is a male speaker with a low pitch and volume (very pleasant voice quality), voice type which would be considered as an attractive male voice. Text was delivered with good interpretation i.e. logical pauses and logical word emphasis, appropriate tempo and loudness. Based on prosodic features he would be perceived as competent, strong, confident, trustworthy.

3. J.B. is a male speaker with higher pitch and uneven pitch range (high intonation beginnings and endings) and very loose articulation which can be perceived as casual (even under the influence of alcohol), speech rate is changeable as well as the loudness. This kind of speaking style may be connected with the lack of seriousness, expertise, too casual, informal and intoxicated.

4. I.B. is a female speaker of average pitch but breathy voice quality. Text was delivered with slower tempo and less intensity (quieter) almost whispery. Combination of these prosodic features is connected with empathy, warmth and softness of character, lack of dominance and authority. These prosodic features are common in comforting situations, compassion and consolation.

5. I.C. is a female speaker of higher pitch and especially important is high intonation beginning and ending of almost every sentence and faster tempo. This type of speaking style is distinctive for positive emotional states like joy, happiness, carelessness. And it can be perceived as informal and not serious enough (even childish), cheerful and inappropriate for serious, official situations.

6. M.D. is a female speaker with lower pitch and hoarse voice quality. Text was delivered with somewhat faster tempo, louder and with more vocal tension. The most important prosodic feature in this example is staccato rhythm which is always connected with commanding style. Combination of these prosodic features results with the perception of anger as well as determines, self-confidence and rigidness.

Six speakers represented different character types (from high dominance to low dominance), different emotional states (from empathy to anger) and as a result, I believe, different persuasiveness power.

3.3. Evaluators and survey

As mentioned above, 87 (42 males, 45 females) evaluators heard the arguments and had to asses it. Listeners were ranging from the ages of 20 to 55, from different social statuses, different level of education (from high school education to PhD's), different professions (journalists, professors, plumbers, hairdressers…) and different origin (various Croatian cities and villages). On line survey provides an opportunity to reach different profiles of people. Survey was designed in a way that evaluators received a link and when they clicked on it one of 8 speakers (randomly chosen) was the one they heard. First, they needed to read the instruction:

> Listen to the speaker and imagine you are hearing the politician speech on the immigrants' topics. Than answer several questions in the survey. Keep in mind that you will hear audio recordings so listen in a quiet place or take your hand phones.

Then listeners filled in demographic data, and answered preliminary questions as follows:

> I. preliminary part (1 absolutely NO – 5 absolutely YES)
> 1. Do you support immigrants entering the Croatia
> 2. Do you think immigrants are safety risk for Croatia?
> 3. Should Croatia provide asylum for those who decide they want to stay?
> 4. Do you think that Muslim immigrants are endangering European values?
> 5. Are you afraid of immigrants?

The point of preliminary data was to test the attitude change. After preliminary questions were answered, evaluators listened to audio recording (duration was approximately 4 minutes) and then answered questions in the second part of the survey, as follows:

> 1. Is the standpoint clear (1 not at all – 5 completely)
> 2. How strong is argumentation? (1 very weak – 5 very strong)
> 3. How persuasive is the speaker (1 not at all – 5 very persuasive)
> 4. How much did your attitude toward immigrants changed? (1 – not at all – 5 completely)

4. RESULTS AND DISCUSSION

Results of this research showed that prosodic features of an argument delivery do have some influence on argument assessment and persuasive

power of the speaker. Preliminary questions on immigrant attitude revealed that evaluators are quite indecisive (average score for all answers was between 2 and 3) on immigrant policy which makes them good potential audience for attitude change (i.e. attitude shaping). They are on average little bit more inclined toward supporting immigrant policies and providing asylum for them and are on average not afraid of immigrants entering EU. Based on this preliminary results it can be expected that and argumentative text with a strong standpoint and supporting arguments will have influence on persuasion direction.

However, survey demonstrated that on average, attitudes of the evaluators did not change.

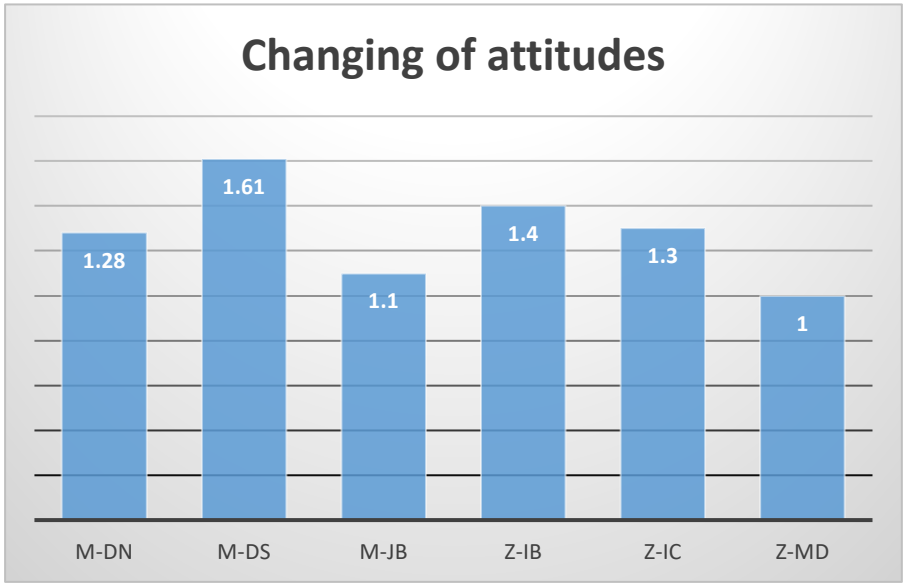

Figure 1 – How much did your attitude toward immigrants changed? (1 – not at all – 5 completely)

It is well known that changing of attitudes requires longer period of time and more exposure to continuous repetition of certain arguments but it is interesting to notice how the highest score for attitude change was in the example of the best combination of prosodic features (speaker D.S.). If we leave aside "attitude change", we can look at the overall results for the "worst speaking style" and the "best speaking style" speakers.

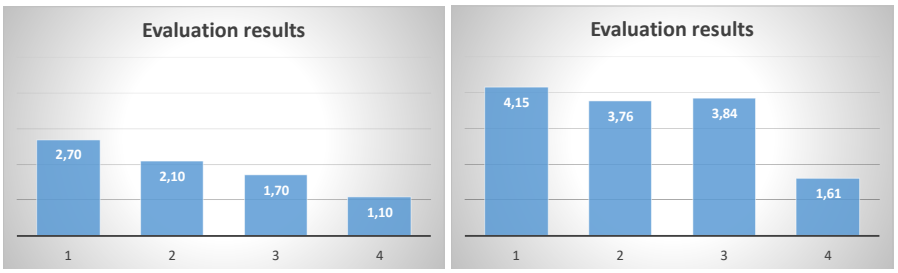

Fig. 2 Comparison in evaluation between the "worst speaking style" (J.B.) and "best speaking style" (D.S.)

J. B. was a male speaker with specific prosodic features (very loose articulation, changing of tempo and intensity, illogical pauses in text) which combined together resulted with a drunk sounding speech. He had the lowest score for the clarity of the standpoint (1) because it was very difficult to listen to the content of the speech. Prosodic features in his case were "too loud", "too informative" attracting attention more than the verbal message. The best speaker (D.S.) had high score for the clarity of the standpoint because all prosodic features in his case were "working together" with the verbal message i.e. did not draw attention from what has being said.

For the second question (argument strength) J.B. gain again the lowest score. The same arguments when delivered by J.B. were 2,1 while delivered by D.S. were 3,76. This shows how the manner of speaking did have influence on argument strength evaluation. Very similar was evaluation of the persuasiveness of the speaker (third question). J.B. was the least persuasive of all the speakers with 1,7 score while the most persuasive speaker of all was again D.S. with 3,84. This comparison, I think, confirms that prosodic features of delivery do have certain influence on evaluation of the argumentative discourse and persuasiveness of the speaker. By the term "evaluation" in this case I don't think on coherent, consistent argument evaluation as in argumentation theory but more of the everyday assessment which citizens do when listening the politicians. And this whole experiment was designed with intention to investigate does **how** we speak has any influence on evaluation of **what** we speak. And based on this comparison, the answer is yes.

As far as the other speakers are concerned, few more interesting results are worth mentioning. The second lowest result on speaker persuasiveness was the male speaker D.N. with prosodic features of an insecure man, low self-esteem and lack of confidence (weaker voice quality with higher pitch, slower tempo, longer and illogical pauses, quieter and non-fluent with speech errors and occasional stuttering). It confirmed previous research describing prosodic features of attractive

voices (Berry, 1991, 1992; Zuckerman & Driver, 1989, Zuckerman et al 1990, Zuckerman & Miyake, 1993) which are connected with personality traits such as confidence, self-esteem, determines and persuasiveness (Burgoon, Birk & Pfau, 1990). Speaker D.N. displayed all the opposite prosodic features which resulted with highly unattractive male voice and weak persuasiveness.

The most persuasive between female speakers was M.D. with prosodic features which are perceived as bossy (for female speakers), determined, strict and strong (staccato rhythm, louder, faster, harsh voice quality and lower pitch). However, as mentioned above, the changing of attitude result was lowest in her case. Perhaps, it can be explained that although speaker sounds persuasive, this combination of prosodic features is not considered attractive and correlates with the perception of negative personality traits such as "bossy", "dictatorial". It also confirms different criteria for male and female voices. According to Berry (1992) vocal attractiveness for male speakers is connected with traits such as competence, dominance, strength while for female speaker's vocal attractiveness correlates with the perception of warmth, gentleness, honesty and kindness.

5. CONCLUSION

This paper presented results of an empirical research which main intention was to apply insights from nonverbal communication research to argumentation studies. Analysing, assessing and evaluating argumentative discourse neglected the influence of prosodic features which in some cases might have significant role in argument (re)construction. In real life argumentative situation, like in political debates, prosodic features can influence both persuasive power of the speaker and the perception of argument strength. This experiment revealed exactly that: the same argumentative discourse delivered by different speakers with different prosodic features was differently evaluated. Prosodic features which are connected with the perception of character traits such as credibility and trustworthiness insured the speaker more persuasive power and arguments were perceived as stronger. On the other hand, prosodic features connected with negative character traits resulted with the diminishing of persuasive power and argument strength. However, experiment also confirmed that attitudes do not change easily and if one wants to influence shaping or changing audience's attitudes it depends mostly on argument itself (verbal part of the message). Weak arguments cannot become strong just by adopting prosodic features nor can strong argument be dismissed based on inappropriate prosody of the speaker. *Logos*, argument themselves,

content of the speech, verbal part of the message remains the most important part of the argumentative discourse but prosodic features which accompany it might have influence in overall argumentative process.

Based on the results of this empirical research it can be said that good arguments can be perceived as even stronger if delivered with favourable prosodic features (which contribute to the perception of trustworthiness, credibility and persuasiveness of the speaker) and weak arguments can be perceived as even weaker when delivered with unfavourable prosodic features (those connected with weakness of character, lack of competence and confidence).

ACKNOWLEDGEMENTS: I wish to thank all the speakers and evaluators who participated in this research. A special thanks to Jordan Bićanić, a colleague from the Department who helped in designing and conducting this experiment.

REFERENCES

Aguinis, H., Simonsen, M. M., & Pierce, C. A. (1998). Effects of nonverbal behavior on perceptions of power bases. *The Journal of Social Psychology*, 138(4), 455–469.

Berry, D. S. (1991). Accuracy in social perception: Contributions on facial and vocal information. *Journal of Personality and Social Psychology,* 62, 298-307.

Berry, D. S. (1992). Vocal types and stereotypes: Joint effects of vocal attractiveness and vocal maturity on person perception. *Journal of Nonverbal Behaviour,* 18, 187-197.

Bloom, K., Zajac, D.J. & Titus, J. (1999). The influence of nasality of voice on sex-stereotyped perceptions. Journal of Nonverbal Behavior 23(4), 271-281.

Burgoon, J. K., Birk, T. & Pfau, M. (1990). Nonverbal Behaviours, Persuasion and Credibility. *Human Communication Research,* 17, (1), 140-169.

Davis, M., Markus, K. A., & Walters, S. B., (2006). Judging Credibility of Criminal Suspect Statements: Does Mode of Presentation Matter. *Journal of Nonverbal Behavior,* 30, 181-198.

DePaulo, B. M., Stone, J. I., & Lassiter, G. D. (1985). Deceiving and detection deceit. In B. R. Schlenker (Ed.), *The self and social life* (pp. 323–370). New York: McGraw-Hill.

DePaulo, B. M., Lindsay, J. J., Malone, B. E., Muhlenbruck, L., Charlton, K., & Cooper, H. (2003). Cues to deception. *Psychological Bulletin*, 129, 74–118

Ekman, P., Friesen, W. V., O'Sullivan, M., & Scherer, K. (1980). Relative importance of face, body, and speech in judgments of personality and affect. *Journal of Personality and Social Psychology*, 38(2), 270-292.

Govier, T. (1993). When Logic Meets Politics: Testimony, Distrust, and Rhetorical Disadvantage. *Informal logic,* 15, (2), 93 -104.

Groarke, L., & Kišiček, G. (2016). Compassion, Authority and Baby Talk: Prosody and Objectivity. In Benacquista, L. & Bondy, P. (Eds.) *Argumentation, Objectivity and Bias: Proceedings of the Ontario Society for the Study of Argumentation Conference*, Vol. 11. Windsor: University of Windsor.

Groarke, L., & Kišiček, G. (2018). Sound Arguments: An Introduction to Auditory Argument. In Oswald, S., Maillat, D. (Ed). *Argumentation and Inference: Proceedings of 2nd European Conference on Argumentation*. London: Collage Publications, 177-199.

Groarke, L. (2018). Auditory Arguments: The Logic of 'Sound' Arguments *Informal Logic*, 38, (3), 312-34.

Guyer, J., Brinol, P., Petty, R., & Horcajo, J. (2019). Nonverbal behaviour of persuasive sources: A Multiple Process Analysis*. Journal of Nonverbal Behaviour.* Published on line 8th January. (Journal of Nonverbal Behaviour https://doi.org/10.1007/s10919-018-00291)

Juslin, P. N., & Laukka, P. (2003). Communication of emotions in vocal expression and music performance: Different channels, same code? *Psychological Bulletin,* 129, 770–814.

Kišiček, G. (2014). The role of paralinguistic features in the analysis of multimodal argumentation. *International Society for the Study of Argumentation (ISSA), 8th international conference on argumentation, at the University of Amsterdam, The Netherlands, July 1–4, 2014*.

Kišiček, G. (2016). Prosodic features in the analysis of multimodal argumentation. In D. Mohamed & M. Lewinski (Eds.) *Argumentation and Reasoned Action* (pp. 629-643). Collage Publications: Milton Keynes.

Kišiček, G. (2019). Auditory arguments – importance of sound in an Argumentative discourse. In Bart Garssen, David Godden, Gordon R. Mitchell, Jean H.M. Wagemans (Eds.) Proceedings of the Ninth Conference of the International Society for the Study of Argumentation (pp. 640-651), Sic Sat: Amsterdam.

Laukka, P. (2008). Research on vocal expression of emotion: State of the art and future directions. In K. Izdebski (Ed.), *Emotions in the human voice. Vol 1. Foundations* (pp. 153–169). San Diego, CA: Plural Publishing.

Mann, S., Vrij, A., & Bull, R. (2004). Detecting true lies: Police officers' ability to detect suspects' lies. *Journal of Applied Psychology*, 89, 137–149.

Oosterhof, N. N., & Todorov, A. (2008). The functional basis of face evaluation. *Proceedings of the National Academy of Sciences of the United States of America*, 105(32), 11087–11092.

Pittam, J. (1987). Listeners' evaluations of voice quality in Australian English speakers. *Language and Speech*, 30, 99-113.

Pittam, J. (1989). The relationship between perceived persuasiveness of nasality and source characteristics for Australian and American listeners. Journal of Social Psychology, 130, 81-87.

Rezlescu, C., Penton, T., Walsh, V., Tsujimura, H., Scott, S. K., Banissy, M. (2015). Dominant Voices and Attractive Faces: The Contribution of Visual and Auditory Information to Integrated Person Impressions*. Journal of Nonverbal Behavior,* 39*,* 355-370.

Van den Hoven, P., & Kišiček, G. (2017). Processing multimodal legal discourse; the case of Stanley 'Tookie' Williams. In M. Manzin, F. Puppo & S. Tomasi (Eds.) *Studies on Argumentation & Legal Philosophy /2 Multimodality and Reasonableness in Judicial Rhetoric* (pp. 33-63). Università degli Studi di Trento: Trento.

Vrij, A. (2000). *Detecting lies and deceit*. Chichester: John Wiley & Sons.

Vukovic, J., Jones, B. C., Feinberg, D. R., DeBruine, L. M., Smith, F. G., Welling, L. L., & Little, A. C. (2011). Variation in perceptions of physical dominance and trustworthiness predicts individual differences in the effect of relationship context on women's preferences for masculine pitch in men's voices. *British Journal of Psychology,* 102(1), 37–48.

Willis, J., & Todorov, A. (2006). First impressions: Making up your mind after a 100-ms exposure to a face. *Psychological Science,* 17(7), 592–598.

Zuckerman, M. & Driver, R.E. (1989). What sounds beautiful is good: The Vocal attractiveness stereotype. *Journal of Nonverbal Behavior* 13, 2, 67 –77.

Zuckerman, M., Hodgins, H., & Miyake, K. (1990). The vocal attractiveness stereotype: Replication and elaboration*. Journal of Nonverbal Behavior, 14*. 97-112.

Zuckerman, M. & Miyake, K. (1993). The attractive voice: What makes it so? *Journal of Nonverbal Behavior,* 17, 119-135.