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Needs Assessment of National Communication Association Conference Presentations: Members' Perceptions of Presentation Effectiveness, Values, and Challenges

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Keywords: academic conference presentations, process anxiety, performance anxiety, perceived effectiveness, needs assessment

Abstract: This study analyzed the National Communication Association (NCA) members' perceptions regarding the effectiveness of their own and their peer presentations and the challenges they faced when preparing and giving conference presentations. Overall, participants (n = 187) feel fairly content with the effectiveness of NCA conference presentations and the value they have gained from them. The effectiveness of others' presentations has a significant association with members' perceived value of the conference presentations. The *lack of experience* and *lack of confidence* are key variables that heighten anxiety which can impact the effectiveness of presentations. *Process anxiety* was positively associated with presentation effectiveness whereas *performance anxiety* was negatively associated with presentation effectiveness. This needs assessment provides informed suggestions for making academic presentations more effective in the future.

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Introduction

Academic conferences are valued venues for disseminating and staying current on scientific knowledge or creative work, gaining feedback, connecting with potential collaborators, and advancing thinking, all of which can push forward a discipline (Byström & Schulz, 2013; Corwin et al., 2018; Jalongo & Machado, 2016; Tracy, 1997). For many, conferences are a vital part of their academic lives as they enter their academic careers, build and maintain relationships, or learn about funding opportunities (Biggs et al., 2017; Sousa & Clark, 2017). Across disciplines, the ability to present one's work confidently and effectively at conferences can create a first impression that may lead to job interviews or new collaborations (Jalongo & Machado, 2016; Sousa & Clark, 2017; Tribe & Marshall, 2020).

While people attend conferences for various reasons and participate in different conference activities (Sousa & Clark, 2017; Wiessner et al., 2008), oral presentations typically take a significant portion of most conference programs (Neves et al., 2012). Arguably, the quality of presentations can affect attendees' overall conference experience. Presentations that are engaging and stimulate dialogue could inspire new ideas, promote mutual learning opportunities, and facilitate a greater return on conference investments (Corwin et al., 2018; Neves et al., 2012; Wiessner et al., 2008). Importantly, "a scientific discovery is only as good as its communication" (p. 3); when presentations are clear or understood, there would be greater chance for critical discoveries to spread and benefit society (Abraham, 2020).

Ineffective conference presentations have been reported in various disciplines such as engineering (Lehr, 1985), library science (Byström & Schulz, 2013), nursing (Sawatzky, 2011), and political science (Smith & Salmond, 2011). Admirably, many communication scholars have conducted excellent work helping researchers in many fields communicate their research more effectively (e.g., Dudo et al., 2021; Luisi et al., 2019; Rodgers et al., 2018). To the best of our knowledge, this is the first study that empirically examines conference presentations at communication conferences. While sources abound in other disciplines that inform their novice and experienced scholars on how to present effectively at their conferences (e.g., Jalongo & Machado, 2016; Sawatzky, 2011; Smith & Salmond, 2011; Tribe & Marshall, 2020), our careful searches in communication-specific databases (i.e., *Communication Source* and *Communications and Mass Media*) yielded virtually no sources that inform our communication community members how to present at conferences. The limited attention on conference presentations within our communication discipline raises several important questions: Are presentations at communication conferences highly effective and in need of no further refinements? Are we implicitly expecting graduate students and new academics to understand conference presentation norms by themselves because they teach public speaking as their first courses? Or, in Tracy and Baratz's (1993) compelling words, are we perhaps reluctant to "submit our own actions to the microscope we turn on others" (p. 300)?

We argue that the presentation quality at communication conferences deserves attention given that the study of public speaking is considered the foundation of the communication discipline (Bodie, 2010). Also, communication teachers should be equipped to model best practices of presentations (Byström & Schulz, 2013; Swennen et al., 2008). Therefore, this needs assessment seeks to understand: (1) the perceptions of the National Communication Association (NCA) members on the effectiveness of their own and their peer conference presentations, (2) the challenges they face in delivering effective conference presentations, and (3) the strategies for increasing the effectiveness of their conference

presentations. This is the first part of a research series that aims to offer informed suggestions for enhancing the quality of conference presentations both within the communication discipline and across the disciplines. This paper examines the general perception and presentation challenges of NCA members and another paper in this series explores strategies for improving presentations. NCA is a not-for-profit leading professional organization with a mission to "advance Communication as the discipline that studies all forms, modes, media, and consequences of communication through humanistic, social scientific, and aesthetic inquiry" (NCA, n.d.c). Since 1915, NCA has been organizing the NCA annual conference which typically attracts 4,500 attendees each year and between 1,100–1,200 total sessions (NCA, n.d.b; personal communication, January 4, 2021). The NCA annual conference plays a significant role in disseminating and advancing communication scholarship as well as promoting the professional development of communication scholars, teachers, and practitioners.

In the following sections, we first explain what a needs assessment is and why it is important for deriving audience-based strategies to enhance conference presentations. We then discuss the characteristics of effective and ineffective conference presentations and where NCA presentations fall within this spectrum. Finally, we review factors that potentially contribute to ineffective conference presentations. Guided by previous research, we pay special attention to public speaking anxiety as a major antecedent to ineffective conference presentations (Bodie, 2010). Research questions and hypotheses are drawn from this literature review.

Needs Assessment Framework

A need is a measurable gap between what currently is and what should or could be (Altschuld & Watkins, 2014). In this study, we are interested in the gap between NCA members' current and desired presentation quality. A needs assessment identifies what the gap is, what causes it, and what should be done to reduce it (Sleezer et al., 2014). Assessment data are useful for creating a relevant intervention program, designing appropriate evaluation measures, and avoiding false assumptions or jumping to a wrong solution (Beebe et al., 2013; Lawson, 2015). Also, the process of collecting data, asking for input from all concerned, and letting them be part of the solutions helps increase their buy-in (Sleezer et al., 2014). Ultimately, a needs assessment helps stakeholders make better decisions about what course of action should be taken to effectively address the needs and further organizations' goals (Charoensap-Kelly, 2018).

From this perspective, it is important to empirically examine the perceptions of NCA members on the quality of their own and their peer presentations and invite them to become part of the effort to enhance their conference experience. Without an understanding of where we currently are, what challenges we encounter, and where we desire to be concerning our presentation practices, it is difficult to pinpoint effective solutions. It is our time-tested rhetorical practice, dating back at least to Aristotle, to analyze the audience and adapt to their specific needs (Cooper, 1932). This needs assessment provides an opportunity for NCA conference participants to concretely examine and reflect on their presentation skills and practices. The results can reaffirm our strengths and uncover the weaknesses we might be overlooking, both of which can help us derive workable approaches for leveraging presentations at our annual conferences. Also, we can improve our teaching and training of students and professionals in our communication discipline.

Characteristics of Effective Conference Presentations

Identifying characteristics of both effective and ineffective conference presentations is the first step to understanding what needs to be done to improve the effectiveness of conference presentations (Jalongo & Machado, 2016). Previous researchers have described effective conference presentations as those in which the presenter is knowledgeable, well-planned, audience-centered, adheres to the time limit, and offers research-based recommendations (Jalongo & Machado, 2016). Also, effective presenters begin a presentation with a strong introduction that succinctly explain the research goals, follow a logical structure, conclude with clear takeaways, use language carefully, speak extemporaneously and enthusiastically, use nonverbal communication appropriately, and use visual aids effectively (Bulska, 2006; Lehr, 1985; Schreiber et al., 2012; Smith & Salmond, 2011). Ultimately, a good conference presentation should "provide an audience with information it can understand, discuss, and remember" (Smith & Salmond, 2011, p. 583).

On the other hand, ineffective presentations exceed the time limit, provide inadequate or weak supporting evidence, and fail to analyze and adapt to the audience (Jalongo & Machado, 2016). Other issues include unnecessarily long literature reviews, irrelevant material, ineffective use of slides (e.g., too many slides, unreadable text, poorly animated slides), reading to the audience, excessive use of technical terms, and convoluted conclusions (Byström & Schulz, 2013; Lehr, 1985; Smith & Salmond, 2011). Unfavorable presentations are also attributable to negative personal characteristics such as insincerity, arrogance, or being dismissive of participants' questions (Jalongo & Machado, 2016).

Following the needs assessment model, it is important to identify NCA members' current and desired presentation quality so that appropriate solutions can be recommended. As part of this needs assessment effort (reported in another paper), we asked NCA members to define effective conference presentations and the results were similar to the characteristics identified by scholars across disciplines as described above. Specifically, NCA members defined an effective conference presentation as one that is audience-centered, clear, well-organized, well-timed, has original, meaningful, and impactful content, and uses visual aids skillfully (Priddis et al., in print). Together with this understanding of their *desired* presentation quality, it is necessary to understand NCA members' *current* presentation quality as perceived by presenters themselves and their peers. Hence, we ask:

> **RQ1a**: What is NCA members' perceived effectiveness of their own presentations at NCA conferences?
>
> **RQ1b:** What is NCA members' perceived effectiveness of their peer presentations at NCA conferences?

In addition to the perceived quality or effectiveness of presentations, it will be helpful to understand the perceived value of NCA conference presentations. The results can indicate the usefulness or worth of NCA presentations as perceived by NCA members. Thus, we ask:

> **RQ2**: To what extent do NCA members perceive NCA conference presentations to be valuable to them?

Also, it is important to identify if NCA members' perceived value of presentations vary by their demographic characteristics. This is to make sure that NCA presentations are equally beneficial and meet the needs of the diverse NCA membership. Hence:

> **RQ3**: To what extent do NCA members' perceived value of conference presentations vary by their (a) biological sex, (b) ethnicity, (c) academic ranking, (d) professional status, and (e) conference presentation experience?

Antecedents to Ineffective Conference Presentations

In order to enhance the quality of NCA conference presentations, it is important to understand the challenges NCA members face when preparing and delivering presentations. In a needs assessment, asking the right questions is key to understanding the root of the problem without assuming what the problem is (Ellis, 2018). Along with an open-ended question that broadly explores the participants' challenges, we consult the combined public speaking and conference presentation literature to formulate specific and relevant questions (X. Chen et al., 2015; Schreiber et al., 2012). Extensive research has shown that communication apprehension (CA) is a major barrier to effective presentations (Ayres, 1990; Bodie, 2010; Jaffe, 2016; Lucas, 2019; McCroskey, 1970; Pearson et al., 2007; Rothwell, 2016), thus we integrate CA into this needs assessment as a potential antecedent to ineffective NCA presentations. McCroskey defined communication apprehension as the anxiety associated with oral communication. The anxiety can occur when speaking in front of an audience, in a meeting, or amongst peers. Additionally, Jaffe (2016) defined communication apprehension as "the fear or dread of negative responses you might experience because you speak out" (p. 15). One form of communication apprehension is known as public speaking anxiety (PSA) which more specifically relates to speaking publicly. There are two types of PSA: process anxiety and performance anxiety (Jaffe, 2016).

Process Anxiety and Performance Anxiety

Process anxiety is specific to the stress associated with the preparation of the speech. This type of anxiety, also called anticipatory anxiety, takes place before the actual speech is performed and can show as physical (e.g., nausea or diarrhea before a speech) or psychological signs (e.g., the fear of dropping note cards when presenting). *Performance anxiety* concerns oral communication and delivery skills or potential problems during speech presentation (Jaffe, 2016; Keith & Lundberg, 2017; Lucas, 2019; Mörtberg et al., 2018). This type of anxiety is sometimes referred to as "stage fright" (McCroskey, 1970). Although it is perfectly normal to be nervous presenting in front of an audience, nervousness can be detrimental to the presenter. Performance anxiety can show as physical signs (e.g., sweating or shaking while presenting) or problems during the speech (e.g., helplessness, forgetting facts; Mörtberg et al., 2018). To understand the extent to which NCA presenters possess the two types of public speaking anxiety, we ask:

> **RQ4**: What is the degree of NCA presenters' self-perceived (a) process anxiety and (b) performance anxiety?

Previous research suggested that there are possible variables such as biological sex differences that researchers should consider when analyzing levels of process and performance anxiety (Bourhis et al., 2006; Lustig & Andersen, 1990; McCroskey et al., 1982). Furthermore, Blithe and Elliott (2020) have

shown that academic rank and ethnicity can influence communication behaviors. Yet, neither study analyzed conference presentations. To understand whether levels of public speaking anxiety among NCA presenters vary by their demographics and to properly target an intervention, we pose:

> **RQ5**: To what extent do NCA presenters' self-perceived levels of process anxiety and performance anxiety vary by their (a) biological sex, (b) ethnicity, (c) academic ranking, (d) professional status, and (e) conference presentation experience?

State Anxiety and Trait Anxiety

Public speaking anxiety can stem from two major causes: state anxiety and trait anxiety. *State anxiety* refers to anxiety caused by specific situations (Motley, 1995). *Trait anxiety* refers to the presenter's internal apprehensions regardless of communication situations (Daly & Friedrich, 1981). Previous research has identified various situational and personal factors that can provoke state and trait anxiety (Ayres, 1990; Beatty, 1988; Behnke & Sawyer, 1999; Clark, 1989; Harris et al., 2006; Hsu, 2009; MacIntyre & MacDonald, 1998). We explain them below.

State Anxiety. For state anxiety, we focus on three situational factors that are likely pertinent to conference presenters: *the lack of preparation time, lack of experience,* and *audience response*.

Lack of Preparation Time. With a constant pressure for academics to perform optimally in research, teaching, and service to advance their careers (Trower & Gallagher, 2008), limited time may be available to prepare for conference presentations. Anecdotal reports suggest it is not uncommon for presenters to prepare their presentations on the plane to a conference (NCA, n.d.a; Rivera, n.d.; Schlawack, 2017). Such limited preparation can heighten anxiety which may adversely affect presentation quality (Baccarani & Bonfanti, 2015; Behnke & Sawyer, 1999; Menzel & Carrell, 1994).

Lack of Experience. Research has shown that the novelty of the speaking situation alone may trigger speech anxiety (Beatty, 1988; Kelly & Keaten, 2000; Rothwell, 2016). For novice presenters, especially graduate students or new academics, their lack of experience and concomitant uncertainty surrounding the discursive practices at conferences may cause nervousness that results in poor presentations (C. W. Y. Chen, 2011; Hamisa, 2014).

Audience Response. Conference presentation is a communicative occasion rife with tensions, face threats, and face negotiation (Luisi et al., 2019; Tracy, 1997) while presenters and audience members co-construct their professional identities as academics, experts, and junior or senior members of the scientific community (Konzett, 2012). Whereas many audience members pose constructive questions or comments helpful for the presenter, some may use the discussion time to prove their own knowledge or stage-hog to their own end (Konzett, 2012; Tracy, 1997). Within this communicative dilemma (Tracy, 1997), it is hard to predict whether one will meet a supportive or antagonistic audience (Duff, 2010). As such, presenters may be concerned with unforeseeable questions or reactions from the audience which can increase their state anxiety (Ayres, 1990) and impact their presentation performance (Hsu, 2009).

Trait Anxiety. For trait anxiety, we focus our investigation on two variables that may relate to academic conference presenters: the *lack of confidence* and *imposter syndrome*.

Lack of Confidence. Self-confidence has been conceptualized as an individual's certainty about his or her abilities (Vealey, 1986) as well as a "feeling of assuredness and lack of anxiety" (Compte & Postlewaite, 2004, p. 1539). Self-confidence enhances one's willingness to communicate and achieve goals through communication (Clark, 1989). Research has shown that self-confidence is positively associated with speech achievement (Tridinanti, 2018; Salim, 2015), information seeking (Locander & Hermann, 1979), and listening comprehension (Clark, 1989). On the contrary, a lack of confidence is shown in one's reticence to speak and considered an indicator of one's communication apprehension (McCroskey, 1970). Individuals with low self-confidence often fear public speaking and may have a harder time presenting at conferences (Hancock et al., 2010; Raja, 2017).

Imposter Syndrome. Imposter syndrome, defined as "an internal experience of intellectual phoniness" (Clance & Imes, 1978, p. 241) may also increase nervousness and make conference presentations particularly daunting. Revuluri (2018) posited imposter syndrome is prevalent among academics regardless of career stage. Importantly, despite outstanding accomplishments, one can still feel inadequate, and this feeling can be "deeply painful and damaging, almost paralyzing" (Revuluri, 2018, para 1). Past research has shown that individuals with imposter syndrome may compensate for the fear of being discovered as an imposter by working more, spending more time than necessary on tasks, and underperforming (Ramsey & Brown, 2018). Additionally, those with high levels of imposter syndrome experience high levels of anxiety and their feelings of inadequacy keep them from performing their best (Bravata et al., 2020; Kananifar et al., 2015; Wilkinson, 2020).

The above review shows that ineffective conference presentations may be attributed to process anxiety and performance anxiety which stem from a variety of situational (state anxiety) and personal (trait anxiety) factors. To empirically examine the challenges NCA presenters encounter when preparing and delivering an NCA conference presentation and determine appropriate interventions, we hypothesize:

> **H1**: Situational factors (i.e., *lack of preparation time, lack of experience,* and *audience response*) will be associated with increased process anxiety and performance anxiety which, in turn, will be linked to decreased presentation effectiveness.
>
> **H2**: Personal factors (i.e., *lack of confidence* and *imposter syndrome*) will be associated with increased process anxiety and performance anxiety which, in turn, will be linked to decreased presentation effectiveness.

Methods

Participants

A voluntary sample was used. Participants (age range = 24–78, M = 44.78, SD = 12.66) included 187 self-reported members of the National Communication Association (NCA) from various divisions. There were 127 females (68%), 50 males (27%), and 10 (5.3%) unreported biological sex. On average, participants attended the NCA conference 12.44 times, ranging from 1–45 times. The participants reported various degrees of experience presenting at NCA and/or other conferences; 0–25 presentations (51, 27.3%), 26–50 (46, 24.6%), 51–75 (26, 13.9%), and above 76 presentations (42, 22.5%). Those who reported they never attended the NCA conference were automatically screened out of the survey. See Table 1 for more demographic information about the participants.

TABLE 1 Participants' Demographics		
	N	%
Ethnicity		
White	143	76.5
Mixed race	11	5.9
Hispanic or Latino	9	4.8
Black or African American	8	4.3
Asian	5	2.7
Language		
Native English speakers	172	92.0
English as a Second Language (ESL) speakers	9	4.8
Education		
Doctoral degree	146	78.1
Master's degree	32	17.1
Other	8	4.2
Professional Status		
Academic Faculty	134	71.7
Practitioners/Hybrid	47	25.1
Academic Ranks		
Graduate students, teaching assistants, research assistants	22	11.0
Assistant professors	38	20.3
Associate professors	40	21.4
Full professors or emeritus professors	40	21.4
Adjuncts, instructors, or lecturers	14	7.5
Other academic status	2	1.1
Employment or Affiliation		
Liberal arts college	15	8.0
Community college	7	3.7
Private university	22	11.8
Public university	126	67.4
Other	11	5.9

Procedures

This study is part of a larger data collection using an online questionnaire. After obtaining IRB approval from the Texas Tech University Human Research Protection Program (IRB 2019-563), participation was solicited through the authors' personal email and social media accounts. A participation request was also sent via email to all the chairs of the divisions and interest groups of NCA. In addition, the call for participation was emailed to the authors' communication professional contacts, posted on various social media related sites (e.g., interest group Facebook pages, regional communication conference pages). Additionally, a request for participation was sent to the NCA listserv called CRTNET.

Measures

Process Anxiety and Performance Anxiety

To assess public speaking anxiety, we used a shorter version (PRPSA-18) of McCroskey's (1970) Personal Report of Public Speaking Anxiety (PRPSA-34). The PRPSA is the most popular measure used to determine public speaking apprehension with high scale validity and reliability. Mörtberg and colleagues (2018) examined the original PRPSA and found the shorter and more easily administered PRPSA-18 to be a credible option. The measure ranged from *strongly disagree* (1) to *strongly agree* (7). Two items were slightly reworded from the classroom presentation to conference presentation contexts. All other items were used in their original format. An exploratory factor analysis using the principal axis factoring method with the Promax rotation indicated the scale had two factors. Two items had cross-loadings and one item did not load in the proper factor, thus they were eliminated from the analysis. Another principal axis factoring analysis was performed yielding two factors with an eigenvalue above 1, accounting for a combined variance of 51.50% (process anxiety 44.96%; performance anxiety 6.54%). This finding is consistent with Mörtberg and colleagues' (2018) study. Factor loadings ranged from .40 to .86. Both subscales had acceptable Cronbach's alpha reliability: *process anxiety* (comprising nine items; e.g., "While preparing for giving a speech, I feel tense and nervous."), $\alpha = .91$ ($M = 3.42$, $SD = .57$, $n = 168$); *performance anxiety* (comprising six items; e.g., "While giving a speech, I get so nervous I forget facts I really know."), $\alpha = .82$ ($M = 2.46$, $SD = .32$, $n = 172$).

Presentation Challenges

Drawing on an extensive review of the literature, we asked participants to reflect on their process of preparing and delivering NCA conference presentations and determine the degree to which they found each of the following issues relevant to them from *not relevant at all* (1) to *very relevant* (7): lack of preparation time, lack of experience, unforeseeable audience questions or responses, imposter syndrome, and lack of confidence. To capture all possible challenges without limiting the participants to these preconceived categories, an "other" option was also provided so participants could give an open response. The challenges were measured as separate single item variables rather than a composite variable so that the effect of each challenge on presentation anxiety and effectiveness could be examined and the challenges most relevant to NCA presenters could be identified for meaningful interpretation and intervention work. Measuring each challenge by a single scale item posed a limitation to the findings which will be later discussed.

Presentation Effectiveness

A modified version of Schreiber et al.'s (2012) Public Speaking Competence Rubric (PSCR) was used to assess participants' general perception of their own presentations and other presentations they had attended at NCA conferences. The PSCR is one of the most reliable measures for assessing public speaking performance (L. Chen et al., 2014). The original PSCR consists of 11 items assessing five levels of performance from deficient to advanced. In this study, all core items were used except for the last optional item concerning persuasiveness because conference presentations are usually informative. Also, because this study aimed to understand the overall effectiveness of NCA conference presentations in general, participants were asked to indicate how often (from *never* [1] to *always* [7]) they met or observed others meet the 10 performance standards including appropriate topic selection, strong introduction, effective organization, use of compelling supporting materials, strong conclusion, careful word choice, effective vocal expression, nonverbal behavior, audience adaptation, and use of visual aids. These scale items

captured the key dimensions of effective conference presentations (i.e., the content, delivery, audience centeredness, and use of visual aids) as described in the literature review. The scale had high internal reliability with Cronbach's alpha of .88 (M = 5.76, SD = .43, n = 150) for self-presentations and .93 (M = 4.43, SD = .39, n = 154) for others' presentations.

Value of Conference Presentations

To assess the extent to which participants perceived NCA presentations to be valuable to them, they were asked to indicate their level of agreement from *strongly disagree* (1) to *strongly agree* (7) with seven benefits of conference presentations including increased knowledge, stimulation of critical thinking, enjoyment, relationship development, inspiration, time worthiness, and value for money. Participants were also asked how satisfied they were with presentations at NCA from *extremely dissatisfied* (1) to *extremely satisfied* (7). These items were drawn from previous research about conference presentations (Byström & Schulz, 2013; Corwin et al., 2018; Jalongo & Machado, 2016; Sousa & Clark, 2017; Tracy, 1997; Wiessner et al., 2008). A principal axis factoring analysis with the Promax rotation was performed on the eight items and indicated that all items loaded together on one factor, accounting for 60.68% of the total variance. Factor loadings ranged from .62 to .89. Cronbach's alpha reliability of the eight items indicated a strong internal consistency, α = .92 (M = 4.73, SD = .43, n = 160). See Table 2 for the complete list of scale items and their factor loadings.

TABLE 2
Factor Loadings for the Exploratory Factor Analysis of the Value of Conference Presentation Scale

Items	Factor Loadings
1. NCA presentations increase my knowledge about the communication field.	.72
2. NCA presentations stimulate my critical thinking.	.85
3. NCA presentations are enjoyable.	.82
4. NCA presentations help me connect with others in the field.	.62
5. NCA presentations inspire me to develop new research.	.75
6. NCA presentations are worthy of my time.	.89
7. NCA presentations are worthy of my money.	.79
8. Overall, how satisfied or dissatisfied are you with presentations at NCA?	.77

Results

Perceived Effectiveness of Conference Presentations

Descriptive statistics are presented in Tables 3 and 4. Intercorrelations among variables are presented in Table 5. **RQ1** concerned NCA members' perceived effectiveness of (a) their own presentations and (b) their peer presentations. On average, participants reported they often met the standards of effective presentations (M = 5.76, SD = .83) and their peers met the presentation standards significantly less often (M = 4.41, SD = .96, paired t[143] = 15.39, p < .001, n = 144). Also, perceived effectiveness of one's own presentation varied significantly by conference experience, F(3, 133) = 3.20, p = .026. Specifically, those who gave more than 75 presentations at NCA and other conferences (M = 5.96, SD = .65) reported a significantly higher effectiveness score than those who gave less than 25 presentations (M = 5.46, SD = 1.01), p = .045.

TABLE 3
Means and Standard Deviations of Participants' Anxiety, Perceived Presentation Effectiveness, and Perceived Value of Presentations by Demographics

	Mean (Standard Deviation)				
	Process Anxiety	**Performance Anxiety**	**Self-Presentation Effectiveness**	**Others' Presentation Effectiveness**	**Perceived Value**
Sex					
Male (*n* = 36)	3.01 (1.36)	2.44 (.92)	5.61 (1.19)	4.06 (1.07)	4.22 (1.53)
Female (*n* = 93)	3.58 (1.31)	2.44 (.94)	5.76 (.66)	4.48 (.82)	4.91 (.98)
Ethnicity					
White (*n* = 106)	3.47 (1.34)	2.45 (.94)	5.72 (.85)	4.35 (.86)	4.77 (1.11)
Non-White (*n* = 22)	3.25 (1.47)	2.46 (1.02)	5.66 (.86)	4.51 (1.13)	4.51 (1.57)
Professional Status					
Academic (*n* = 99)	3.56 (1.27)	2.59 (.96)	5.64 (.76)	4.41 (.83)	4.83 (1.04)
Practitioner/Hybrid (*n* = 31)	3.08 (1.55)	2.01 (.75)	5.94 (1.04)	4.21 (1.12)	4.40 (1.57)
Academic Rank					
Graduate Students (*n* = 14)	3.58 (1.64)	2.65 (1.30)	5.56 (1.18)	4.32 (.95)	4.91 (1.63)
Adjunct, Instructor or Lecturer (*n* = 10)	3.23 (.85)	1.92 (.62)	5.79 (1.13)	4.55 (1.51)	5.14 (1.35)
Assistant Professor (*n* = 31)	3.72 (1.14)	2.51 (.87)	5.52 (.72)	4.25 (.70)	4.80 (.99)
Associate Professor (*n* = 32)	3.58 (1.39)	2.66 (.73)	5.65 (.84)	4.38 (.97)	4.57 (1.01)
Full or Emeritus Professor (*n* = 25)	3.25 (1.49)	2.47 (1.06)	5.98 (.69)	4.68 (.85)	4.96 (1.02)
ESL Presenters					
Yes (*n* = 125)	3.44 (1.37)	2.44 (.95)	5.71 (.85)	4.34 (.91)	4.76 (1.19)
No (*n* = 5)	3.49 (.83)	2.70 (.69)	5.84 (.50)	4.90 (.63)	3.83 (1.13)
Number of Presentations at NCA and Other Conferences					
0 to 25 (*n* = 34)	4.06 (1.42)	3.00 (1.05)	5.33 (.98)	4.22 (.97)	4.85 (1.05)
26 to 50 (*n* = 33)	3.20 (1.40)	2.13 (.82)	5.95 (.64)	4.39 (.79)	4.70 (1.38)
51 to 75 (*n* = 25)	3.20 (1.09)	2.39 (.68)	5.63 (.90)	4.39 (.88)	4.80 (1.03)
Above 75 (*n* = 27)	2.88 (1.19)	2.14 (.83)	5.93 (.69)	4.27 (.71)	4.56 (1.27)
Overall (*n* = 130)	**3.42 (1.38)**	**2.46 (.99)**	**5.76 (0.83)**	**4.43 (.95)**	**4.73 (1.21)**

Note. All variables are on the scale of 1 to 7. Listwise deletion method was used for these descriptive statistics.

TABLE 4
Means and Standard Deviations of Participants' Perceived Challenges by Demographics

	Mean (Standard Deviation)				
	Lack of Preparation Time	**Lack of Experience**	**Audience Response**	**Imposter Syndrome**	**Lack of Confidence**
Sex					
Male (*n* = 43)	2.81 (1.89)	1.70 (1.28)	2.84 (1.95)	3.42 (2.35)	2.51 (1.84)
Female (*n* = 111)	3.46 (2.04)	1.93 (1.44)	3.34 (1.89)	3.95 (2.29)	3.23 (1.87)
Ethnicity					
White (*n* = 124)	3.27 (1.99)	1.82 (1.34)	3.26 (1.92)	3.73 (2.40)	3.10 (1.98)
Non-White (*n* = 28)	3.21 (2.08)	2.04 (1.62)	3.00 (2.02)	4.14 (2.07)	2.71 (1.58)
Professional Status					
Academic (*n* = 116)	3.40 (1.97)	1.86 (1.36)	3.33 (1.89)	3.86 (2.30)	3.08 (1.88)
Practitioner/Hybrid (*n* = 41)	2.88 (2.10)	1.85 (1.49)	2.85 (2.02)	3.66 (2.38)	2.93 (1.97)
Academic Rank					
Graduate Students (*n* = 18)	3.28 (2.19)	3.00 (1.88)	3.89 (2.11)	4.89 (2.25)	3.67 (1.85)
Adjunct, Instructor or Lecturer (*n* = 13)	2.38 (1.66)	2.15 (1.99)	3.77 (2.35)	3.85 (2.44)	3.23 (2.05)
Assistant Professor (*n* = 33)	4.00 (2.29)	2.03 (1.40)	3.64 (2.15)	4.12 (2.26)	3.21 (1.90)
Associate Professor (*n* = 36)	2.78 (1.61)	1.56 (.94)	2.89 (1.70)	4.03 (2.08)	3.03 (1.83)
Full or Emeritus Professor (*n* = 33)	3.30 (1.96)	1.27 (.57)	2.64 (1.48)	2.73 (2.18)	2.58 (1.85)
ESL Presenters					
No (*n* = 151)	3.22 (2.00)	1.86 (1.39)	3.21 (1.93)	3.81 (2.31)	3.05 (1.91)
Yes (*n* = 6)	4.33 (2.16)	1.83 (1.60)	3.17 (2.14)	3.83 (2.56)	2.83 (1.72)
Number of Presentations at NCA and Other Conferences					
0 to 25 (*n* = 40)	3.53 (2.01)	2.78 (1.82)	4.50 (1.99)	5.05 (2.15)	3.80 (2.02)
26 to 50 (*n* = 38)	3.16 (1.88)	1.66 (.97)	3.05 (1.69)	3.82 (2.31)	2.82 (1.96)
51 to 75 (*n* = 26)	3.35 (2.19)	1.35 (.98)	2.73 (1.82)	3.46 (2.12)	2.81 (1.70)
Above 75 (*n* = 39)	2.95 (2.08)	1.23 (.49)	2.21 (1.32)	2.67 (2.08)	2.28 (1.56)
Overall (*n* = 157)	**3.28 (2.01)**	**1.86 (1.38)**	**3.20 (1.93)**	**3.83 (2.30)**	**3.09 (1.91)**

Note. All variables are on the scale of 1 to 7. Listwise deletion method was used for these descriptive statistics.

TABLE 5
Intercorrelations Among Variables

Variable	1	2	3	4	5	6	7	8	9	10
1. Lack of preparation time	–									
2. Lack of experience	.28**	–								
3. Audience response	.24**	.50**	–							
4. Imposter syndrome	.20*	.38**	.48**	–						
5. Lack of confidence	.31**	.59**	.45**	.74**	–					
6. Process anxiety	.20*	.34**	.30**	.43**	.60**	–				
7. Performance anxiety	.18*	.30**	.22**	.37**	.51**	.68**	–			
8. Self-presentation effectiveness	–.19*	–.27**	–.13	–.08	–.18*	–.03	–.29**	–		
9. Others' presentation effectiveness	.07	.07	–.07	–.18*	–.04	.01	–.04	.31**	–	
10. Perceived value	.11	.08	.15	–.05	.09	.07	–.01	.12	.43**	–

*$p < .05$, **$p < .01$

Perceived Value of Conference Presentations

RQ2 asked to what extent NCA members perceived NCA conference presentations to be valuable to them. On a scale of 1 to 7 (where 7 was the most favorable), participants reported an average score of 4.73 ($SD = 1.21$), suggesting an attitude between indifferent and slightly favorable. In addition, an exploratory examination of the data through a linear regression revealed that the presentation effectiveness of other presenters significantly predicted participants' perceived value of NCA conference presentations ($\beta = .43$, $t = 5.72$, $p < .001$), explaining 18% of the variance, $F(1, 148) = 32.76$, $p < .001$. A closer examination of the 10 presentation evaluation criteria revealed that topic choice ($r = .42$, $p < .001$) and audience adaptation ($r = .36$, $p < .001$) were the most strongly correlated with perceived value of conference presentations compared to the other criteria.

RQ3 explored if NCA members' perceived value of presentations varied by their (a) biological sex, (b) ethnicity, (c) academic ranking, (d) professional status, and (e) conference presentation experience. Female participants ($M = 4.95$, $SD = .99$, $n = 113$) reported a significantly higher level of presentation value than male participants ($M = 4.21$, $SD = 1.49$, $n = 44$), $t(58.32) = -3.05$, $p = .003$. A series of t tests and ANOVAs revealed no statistical differences in perceived value among levels of any other demographic characteristics.

Presentation Challenges, Speech Anxiety, and Presentation Effectiveness

RQ4 examined the degree of NCA presenters' self-perceived (a) process anxiety and (b) performance anxiety regarding public speaking. Overall, participants reported a lower level of both types of anxiety. They experienced process anxiety ($M = 3.44$, $SD = 1.38$, $n = 161$) significantly more than performance anxiety ($M = 2.48$, $SD = .99$, $n = 161$), paired $t(160) = 11.91$, $p < .001$.

RQ5 explored if NCA presenters' self-perceived levels of process anxiety and performance anxiety varied by their (a) biological sex, (b) ethnicity, (c) academic ranking, (d) professional status, and (e) conference presentation experience. Female participants (M = 3.62, SD = 1.33, n = 117) reported a significantly higher level of process anxiety than male participants (M = 2.89, SD = 1.33, n = 47). However, their level of performance anxiety was relatively in the same range. No differences in either process anxiety or performance anxiety were found among different groups of ethnicity or academic ranks. However, academics reported a significantly higher level of performance anxiety (M = 2.57, SD = 1.01, n = 129) than practitioners or hybrid professionals (i.e., those in academia who also engage in paid consulting) (M = 2.12, SD = .82, n = 43), $t(170) = 2.63$, $p = .009$. No difference was found in their process anxiety. Finally, both process anxiety and performance anxiety varied significantly by participants' conference presentation experience. Those with the least experience (less than 25 presentations) reported significantly higher process anxiety (M = 4.09, SD = 1.42, n = 48) than the other groups with more experience ($F[3, 149] = 8.06$, $p < .001$): 26 to 50 presentations (M = 3.12, SD = 1.36, n = 42, $p = .003$); 51 to 75 presentations (M = 3.20, SD = 1.08, n = 25, $p = .032$); over 75 presentations (M = 2.79, SD = 1.18, n = 38, $p < .001$). Similarly, those with the least experience (less than 25 presentations) reported significantly higher performance anxiety (M = 3.01, SD = 1.11, n = 47) than any other groups with more experience (*Welch*'s $F[3, 81.35] = 6.94$, $p < .001$): 26 to 50 presentations (M = 2.17, SD = .83, n = 43, p = .001); 51 to 75 presentations (M = 2.37, SD = .67, n = 26, $p = .016$); over 75 presentations (M = 2.12, SD = .91, n = 41, $p < .001$).

H1 and **H2** predicted that situational factors and personal factors would be associated with increased process anxiety and performance anxiety which, in turn, would be related to decreased presentation effectiveness. To test these hypotheses, structural equation modeling (SEM) was performed using AMOS 25. Missing values were replaced with medians of nearby points. A confirmatory factor analysis was first performed to ensure the measurement model fit the data adequately and the results showed that it did: $X^2 = 420.89$ (df = 268, n = 158, $p < .001$), TLI = .91, CFI = .92, RMSEA = .06, SRMR = .07. The model comprised three factors: process anxiety, performance anxiety, and self-perceived presentation effectiveness. Standardized regression weights of all items were significant and ranged from .37 to .83. See Table 6 for the complete list of scale items and their standardized regression weights.

An SEM was then performed using the bootstrapping method with 2,000 bootstrap samples and 95% bias-corrected confidence intervals. This method was used to obtain both direct and indirect effects of lack of preparation time, lack of experience, audience response, lack of confidence, and imposter syndrome (independent variables) simultaneously through process anxiety and performance anxiety (mediators) on presentation effectiveness (dependent variable). In the initial analysis ($X^2 = 603.02$, [df = 379, n = 158, $p < .001$], TLI = .89, CFI = .90, RMSEA = .06, SRMR = .07), lack of preparation time, audience response, and imposter syndrome were found to have no relationship with any of the mediators or the dependent variable, thus removed in order to simplify and improve the model. An examination of the modification indices also revealed that the model fit would be improved if a direct path was added from process anxiety to performance anxiety. The revised model (Figure 1) fit the data significantly better and, hence, was used to test the hypotheses ($X^2 = 494.82$ [df = 313, n = 158, $p < .001$], TLI = .90, CFI = .91, RMSEA = .06, SRMR = .07, X^2 Diff = 108.20, *df diff* = 66, $p < .001$).

TABLE 6
Standardized Regression Weights for Confirmatory Factor Analysis of the Process Anxiety, Performance Anxiety, and Presentation Effectiveness Scales

Scale	Standardized Regression Weights
Process Anxiety	
1. While preparing for giving a speech, I feel tense and nervous.	.73
2. I get anxious when I think about a speech coming up.	.78
3. My heart beats very fast just as I start a speech.	.55
4. I experience considerable anxiety while sitting in the room just before my speech starts.	.83
5. I feel comfortable and relaxed in the hour or so just before giving a speech.	.76
6. I have trouble falling asleep the night before a speech.	.58
7. I have no fear of giving a speech.	.65
8. I do not dread giving a speech.	.73
9. I feel anxious while waiting to give my speech.	.75
Performance Anxiety	
1. Right after giving a speech, I feel that I have had a pleasant experience.	.65
2. I feel that I am in complete possession of myself while giving a speech.	.65
3. My mind is clear when giving a speech.	.61
4. While giving a speech, I know I can control my feelings of tension and stress.	.39
5. During an important speech I experience a feeling of helplessness building up inside me.	.70
6. While giving a speech, I get so nervous I forget facts I really know.	.71
Self-Perceived Presentation Effectiveness	
1. Selected a topic appropriate to the audience and occasion.	.69
2. Formulated an introduction that oriented the audience to the topic and speaker.	.77
3. Used an effective organizational pattern.	.75
4. Located, synthesized, and employed compelling supporting materials.	.71
5. Developed a conclusion that reinforced the thesis and provided psychological closure.	.64
6. Demonstrated a careful choice of words.	.68
7. Effectively used a vocal expression and paralanguage to engage the audience.	.65
8. Demonstrated supportive nonverbal behavior.	.59
9. Successfully adapted the presentation to the audience.	.72
10. Skillfully made use of visual aids.	.37

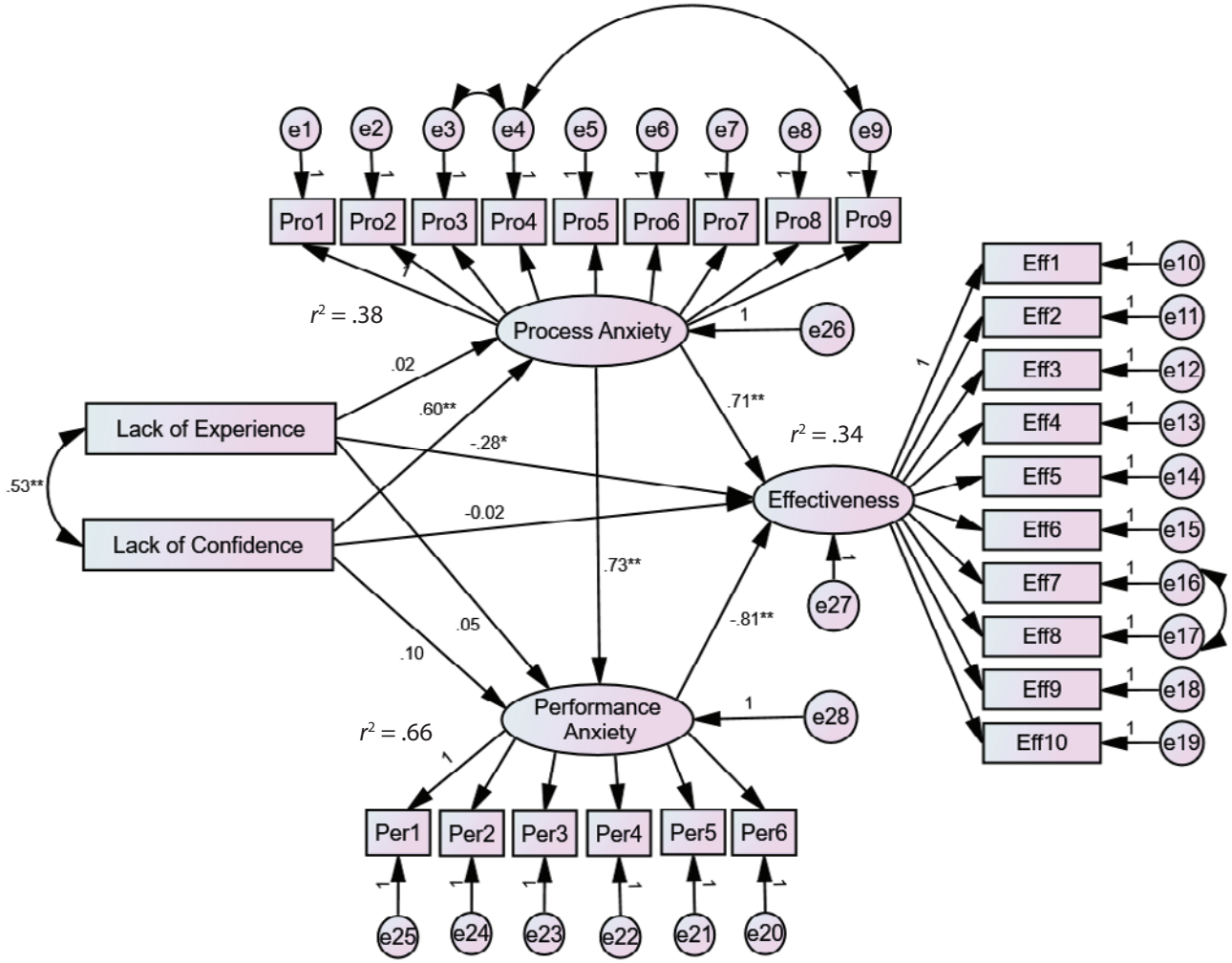

FIGURE 1

The statistical model illustrating the relationship among lack of experience, lack of confidence, process anxiety, performance anxiety, and presentation effectiveness. *p<.01, **p<.001; standardized path coefficients reported.

The results showed that *lack of confidence* was significantly associated with increased process anxiety (β = .60, p < .001) which, in turn, was linked to increased performance anxiety (β = .19, p < .001). However, lack of confidence was not associated with presentation effectiveness, directly or indirectly. Consistent with the analysis of group differences (through an ANOVA) described above, *lack of experience* was significantly associated with decreased presentation effectiveness regardless of speech anxiety (β = –.28, p = .004). Interestingly, process anxiety was significantly associated with increased presentation effectiveness (β = .71, p < .001) while performance anxiety was significantly and strongly associated with decreased presentation effectiveness (β = –.81, p < .001). Moreover, process anxiety had an indirect effect on presentation effectiveness through performance anxiety (β = –.35, p < .001). Putting together, **H1** and **H2** were only partially supported.

Other Challenges in Preparing and Delivering Effective NCA Conference Presentations

In addition to rating the extent to which the lack of preparation time, lack of experience, audience response, imposter syndrome, and lack of confidence were relevant to them, participants could choose to provide an open response regarding the roadblocks they experienced while preparing and delivering an NCA conference presentation. This allowed for all possible challenges to emerge without limiting the participants to preconceived categories and provided richer information for this needs assessment. Thirteen participants provided these open responses which could be categorized into three themes: presentation itself, audience reaction and evaluation, and room setup and technology. The presentation category ($n = 7$) included issues such as the limited time to address the breadth of the topic, the delivery style required, and the group presentation norms of specific NCA divisions. The audience reaction category ($n = 3$) included a concern about the audience dismissing the presentation or the presenter. Last, the room setup and technology category ($n = 3$) involved an uncertainty about how the room would be arranged, the lack of an audiovisual device, or the lack of technical support. Together, these themes represent situational factors that are likely to create process anxiety or performance anxiety shown in the quantitative data.

Discussion

This needs assessment examined NCA members' perceptions regarding the quality of their own and their peer conference presentations as well as the challenges they face in preparing and delivering effective conference presentations. The results shed light on what can be done to promote more effective presentations in the future. This study had numerous implications for individual presenters, academic departments, universities, and conference planners both at NCA and other professional organizations.

Implications

First, the results revealed that most respondents were fairly content with the effectiveness of their NCA presentations as well as the presentations of others. In the same fashion, the respondents reported a range between indifferent and slightly favorable attitudes concerning the value they gained from listening to NCA presentations, suggesting there is room for improvement. Interestingly, the effectiveness of others' presentations accounted for only 18% of members' perceived value of conference presentations across the members' demographic groups. On one hand, this small effect size informs conference planners that, besides the presentation quality, there may be several other factors that influence attendees' attitudes such as the post-presentation discussions, the insightful comments from respondents, the ability of panel chairs to manage time, the panel climate, or the comfort of the venue. These are important elements to attend to and explore in the future. On the other hand, this effect size still indicates the meaningfulness of presentation quality; it is a clear and relatable presentation that often stimulates questions and sparks discussions. Presenters should still seek to prepare and deliver their presentations well, and our finding suggested that, at the very least, they should be attentive to their topic choice and audience adaptation.

Second, the results also revealed that individuals with more conference presentation experience reported higher levels of presentation effectiveness compared with individuals who gave fewer conference presentations. Through experience, speakers learn how they should present and how their presentations might be received. On the contrary, those with less conference presentation experience reported a

higher level of both process anxiety and performance anxiety as well as a lower level of presentation effectiveness. Contrary to our expectations, the lack of preparation time, audience response, and imposter syndrome were not associated with anxiety or presentation effectiveness. Ayres (1996) suggested that the general belief that little preparation results in anxiety is likely erroneous. He found those with high communication apprehension (CAs) spent more time preparing their speeches but received poorer grades than those with low communication apprehension. This is because the high CAs used ineffective tactics to prepare their presentation (e.g., preparing notes) compared to the low CAs who spent less time preparing but used more effective preparation strategies (e.g., rehearsing in front of an audience) (Ayres, 1996; Daly et al., 1995). Because the participants in our sample, communication scholars, had reportedly low levels of anxiety, they might use more effective preparation tactics despite their limited preparation time. This may explain why we found no relationship between preparation time and anxiety or presentation quality. Our nonsignificant findings on the effect of unforeseeable audience response (Hsu, 2009; MacIntyre & MacDonald, 1998) and imposter syndrome (Bravata et al., 2020; Kananifar et al., 2015; Wilkinson, 2020) contrasted previous research. Plausibly, measuring audience response and imposter syndrome with single-scale items did not allow us to tap into the entirety of these constructs and limited our findings. Future research should use more appropriate measures to examine the influence of unforeseeable audience response and imposter syndrome on conference presenters' anxiety and performance.

Nonetheless, our results provide preliminary suggestions that an intervention to improve conference presentations should target individuals with the least conference presentation experience such as undergraduate or graduate students and early career scholars. Academic departments and graduate programs can assist in this effort by providing opportunities for advanced undergraduate or graduate students to polish their conference presentation skills such as through professional development courses, student-led training programs, senior seminar courses, and university-wide research symposiums (Clarkson et al., 2018; Olsen & Johnson, 2000; Sellnow, 2019). It can also be helpful to allow students to present their conference-accepted research and gain feedback from peers and faculty in their home department before presenting it at professional conferences. Additionally, given that many presenters start their conference presentation journey as graduate students at state or regional communication associations (Spruill & Bensoff, 1996), a joint initiative between NCA and state or regional communication associations (e.g., resource sharing, joint seminars, honors programs) can provide much-needed support for presenters to strengthen their conference presentation skills. A purpose of professional associations is to "encourage excellence and creative leadership [and] cultivate professional attitudes, ideals, and standards" (Scott, 1980, p. 128). Therefore, it would be helpful for them to provide their members (especially those early in their careers) with suggestions and techniques to lower anxiety and present more effectively at their annual conferences. Such an initiative may help professional organizations retain and recruit new members and promote participation in future conferences.

Third, the goal of an intervention should be to help boost members' confidence and manage their anxiety. The results revealed that the lack of confidence can heighten process anxiety and process anxiety can increase performance anxiety which can, in turn, negatively affect the presentation effectiveness. Most notably, process anxiety was found to enhance presentations whereas performance anxiety was found to negatively affect presentations. Therefore, it will be beneficial to help members maintain a functional level of process anxiety and lower performance anxiety. Presenters should first recognize that a slight degree of nervousness before the conference is good as it can motivate them to prepare and practice well (Rothwell, 2016). However, they should be encouraged to start preparing early and actively seek necessary

information to reduce their uncertainty and keep their process anxiety in check (Witt & Behnke, 2006). As the qualitative data reveals, presenters may contact panel chairs or divisional program planners to find out about their allotted presentation time, preferred delivery style, audience's expectations, room setting, or division-specific presentation norms before a presentation. They can also consult resources available on the NCA website and in NCA newsletters on best practices for preparing presentations (NCA, n.d.a). These strategies may help presenters alleviate their process anxiety before the presentation which would also lower their performance anxiety during the presentation. Further strategies for managing performance anxiety include, for example, viewing presentation as a communication rather than a performance, using relaxation techniques such as deep breathing right before the presentation, and using positive coping statements during the presentation (e.g., "I'm past the tough part"; Rothwell, 2016). It should be noted that some presenters may have panic disorder or social phobia that exacerbates their anxiety and negatively affects their presentation. In such a case, it may be helpful to present to a mentor to gain personal guidance about the nonverbal aspects (e.g., eye contact, vocal variety) and verbal components (e.g., organization, transitions, depth) of the presentation. In case of severe trait anxiety, presenters may consider using systematic desensitization techniques or seeking professional counseling (Friedrich et al., 1997). In sum, the ability to manage anxiety will help presenters feel more confident which can then improve their conference presentations (Bodie, 2010; Pearson et al., 2007).

Fourth, women in this study reported they gained more benefits from attending NCA conference presentations compared to men. This may be because women are more relationship-oriented compared to men (Baxter, 1986) and thus are more interested in attending presentations to connect with and support their students or fellow scholars. Conferences are social spaces where cohorts can come together and support each other in their professional and personal lives (McCarthy et al., 2004), and women may appreciate this opportunity to maintain those relationships. Another reason may be that women in academia tend to experience more microaggressions and hostilities and their professional behavior is defined differently from men (Blithe & Elliott, 2020). Biggs et al. (2017) argue conferences are a context in which gender norms are enacted and reflect the masculine normative culture of academia. As such, women may feel a higher necessity to attend presentations and be current on topics of discussion and recent research to increase their ability to advance their careers. These reasons may explain why the female participants perceived conference presentations to be more valuable than their male counterparts.

Fifth, female participants reported feeling higher levels of process anxiety than male participants. This is aligned with the public speaking literature which consistently found that females reported slightly but saliently higher public speaking anxiety than men (Lustig & Andersen, 1990; McCroskey et al., 1982). McCroskey et al. (1982) posited this public communication anxiety may "represent somewhat of a barrier to advancement of women within our society generally" (p. 133). In addition, women are often judged harsher on their communication skills and have to work harder at obtaining higher ratings of approval compared to men (Prime et al., 2009). This need for approval may be linked to feelings of anxiety. Therefore, female presenters may desire additional support to keep their process anxiety at a functional level and prevent it from becoming performance anxiety. It should also be noted that our data was collected in the summer of 2019 during which time issues of institutional biases at NCA and in the communication field were widely debated (Flaherty, 2019). Strong sentiment was that conferences perpetuated certain types of privilege and disadvantaged those from certain backgrounds. Indeed, many academic disciplines have also faced similar and critical problems (e.g., Foxx et al., 2019; Moody et al., 2013; Sarabipour et al., 2020; Tulloch, 2020). Although diversity and inclusion were not the focus of this research, the significantly higher level of anxiety among female presenters compared to male

presenters found in this study may reflect a deeper and broader problem at NCA. Oftentimes, a needs assessment can produce data related to other organizational issues beyond its initial area (McClelland, 1995). For these reasons, this research affirms the need for NCA and professional organizations to ensure all presenters, regardless of race, sexuality, ideology, or other aspects of identity, will receive adequate support, benefit from, and feel free to contribute their best at conferences (Tulloch, 2020).

Limitations

Some limitations in this study need to be mentioned. First, there was not a validation check to see if the participants were actual members or current members of NCA. A validation check would have allowed us to make sure the data was relevant and accurately reflected the association. However, a confirmation of membership would require personal identification and pose anonymity and privacy concerns, potentially keeping participants from responding freely and honestly. Second, this study only focused on the perceived effectiveness and value of conference presentations; it did not capture the overall conference experience. However, as the data revealed, there might be other broader factors that affected the delivery or evaluation of conference presentations that we did not account for such as communicator styles, organizational climate, and section/division/caucus culture. Third, the sample was rather small compared to the average number of attendees in the NCA annual conference ($N = 4{,}500$) and might not be parallel to the overall NCA membership. Future research should use a larger sample size and include more participants from underrepresented groups from the various interest groups and divisions. With a larger and more diverse sample, future researchers can examine more concretely if and how perceptions about conference presentations vary by interest groups and participants' backgrounds. Fourth, we measured biological sex in this study because previous research found biological sex differences in public speaking anxiety scores (Lustig & Andersen, 1990; McCroskey et al., 1982). However, "any findings linking anxiety to biological sex are very difficult to explain biologically" (McCroskey et al., 1982, p. 129) and the differences found in the current study may be confounded by gender roles which are socially constructed. Future studies should examine both biological sexes and gender orientations to understand their influences on conference presentations more fully.

Future Research

In the future, researchers should analyze cultural differences and/or language barriers that might affect perceptions regarding conference presentations. Language barriers may prevent some non-native English presenters from communicating effectively both verbally and nonverbally. This may heighten their public speaking anxiety compared to native English speakers (Alemi et al., 2011). X. L. Chen and Zhang (2004) noted that second-language speakers are more anxious for fear of being evaluated negatively by audience members, which then affects the speakers' self-esteem and presentation performance. These negative effects may be even more profound among presenters at international conferences whose English may be the third or fourth language.

Additionally, there are different aspects of academic conferences that can be explored more deeply through communication theories. For example, researchers may employ coordinated management of meaning theory (Pearce & Cronen, 1980) to understand how conference attendees in each discipline co-create meanings, codes of conduct, presentation norms, or gendered norms. Researchers may also use social exchange theory (Roloff, 1981) to understand how conference attendees calculate the cost-benefit ratio of attending and presenting at conferences. In addition, researchers might investigate the

relationship between self-efficacy and overconfidence (i.e., the difference between a person's expected performance and his or her actual performance) among conference presenters regarding their perceived presentation quality (Moores & Chang, 2009). Previous research has shown high self-efficacy can lead to overconfidence, relaxation, and lower performance over time (Vancouver et al., 2001, 2002). Compared to scholars in other disciplines, communication professors are likely to have higher self-efficacy regarding public speaking and perhaps feel so confident in our skill set to speak almost off the cuff. However, since the participants rated their own presentation performance more favorably than their peers, it would be interesting to examine if and to what extent their self- versus peer-performance ratings are influenced by their self-efficacy and overconfidence (Moores & Chang, 2009). Attribution theory (Heider, 1958) may also serve as a fruitful lens for further investigating this phenomenon.

Moreover, future studies can explore ways to make presentations more accessible for both presenters as well as listeners with disabilities. Recently, Dr. Isaac West at Vanderbilt University has made a commendable effort in assembling and distributing an online shared document listing best practices for accessible conference presentations and allowing others to add ideas and techniques to them (West, n.d.). This is helpful for making NCA presentations both effective and accommodating which helps foster an inclusive and supportive climate for all members. Empirical research can be further conducted to provide informed recommendations to support presenters with disabilities.

This research focused on formal paper presentations because they are currently the majority of presentations at NCA. However, in recent years, NCA has created alternative types of presentations such as Scholar-to-Scholar presentations where participants display their work using creative posters, digital slides, and other media while having informal conversations with other scholars in attendance. At many conferences, alternative formats (e.g., high-density sessions or speed-date roundtables, etc.) are also the main activities. Future research should examine the perception of these alternative presentation formats, measure presenters' self-perceived anxiety over these more informal sessions, and investigate how these innovative formats may affect attendees' perceptions of the overall conference experience.

Next, individuals attend conferences for different reasons and their motivations may influence their own presentation performance or perception of others' presentations (Sousa & Clark, 2017). Future research can examine various goals (e.g., networking, continued learning, career advancement, impression management) and their moderating effect in the relationship between presentation effectiveness and perceived value of presentations. Gratification may also serve as another moderator and researchers may explore how gratification from supporting others or serving in a leadership role at a conference, for instance, influences one's overall conference experience.

In addition, future research might compare communication conferences to conferences from other disciplines to see if the same behaviors exist and examine various ways to help speakers. For instance, NCA members in this study reported low levels of anxiety. This may be because many NCA members, mostly communication professors, teach public speaking skills in the classroom and are perhaps more comfortable speaking publicly. Future researchers can compare NCA members' levels of anxiety to those of other disciplines (e.g., computer science, engineering, etc.) and explore if presenters at NCA and other disciplines can benefit from the same or different kinds of assistance for enhancing conference presentation skills.

Last, this data was collected before the COVID-19 pandemic suddenly moved academic conferences online and forced organizers to rethink their in-person events (Kim, 2020). Because many criteria for determining an effective presentation are the same whether it is delivered face-to-face or online (e.g., audience-centeredness, well-organized content, clarity, engaging delivery, time management), the results from this needs assessment would still apply to the post-COVID era. Nonetheless, the pandemic has created new challenges that call for research attention. For instance, the need to navigate web-conferencing technologies, the limited nonverbal feedback from the audience, the comfort of presenting from home, the ability to engage with audience members real-time via chat messages, or the larger audiences due to zero travel cost may increase or decrease presenters' process or performance anxiety which affects the quality of presentations. These new dynamics may also impact attendees' perceived value of conference presentations. As virtual conferences will likely stay at least for the next several years, future researchers may explore how conference attendees assess the quality and value of virtual conference presentations.

Conclusion

Conferences are a vital part of academic life. Although people have different personal reasons for attending conferences (Sousa & Clark, 2017), knowledge sharing is arguably the main activity of most conferences (Neves et al., 2012). Indeed, the recent controversies surrounding racism in professional organizations, the foreseeable changes in conferences post COVID-19, or the push for more interactive, innovative presentation formats, all seem to indicate there are many more pressing issues than improving the quality of oral presentations. Nevertheless, to maximize the benefit for those attending and listening to conference presentations, the ability to present relevant content clearly and confidently is still critical whether the presentation is delivered face-to-face, online, or in an informal format. Unless something is done, ineffective presentations will continue to be the norm of academic conferences (Laist, 2017; Lehr, 1985).

This needs assessment suggested many nuanced and important implications that individual presenters, academic departments, universities, and conference organizers can use to further leverage conference presentations. The lack of experience and lack of confidence are key variables that heighten anxiety which can impact the effectiveness of conference presentations. Individuals with the least conference presentation experience, particularly those in their early career stages, could benefit the most from an intervention that helps boost their confidence and manage their process and performance anxiety. Also, strategies should be developed to ensure presenters of all backgrounds will receive adequate support to lower their anxiety and feel free to contribute their best at conferences.

What would an academic conference be like if attendees left every presentation session feeling satisfied with new learning, energized to spread the new knowledge, and inspired to develop new studies? As the study of public speaking is considered the foundation of our communication discipline (Bodie, 2010), producing these results and improving conference presentations across disciplines is highly pertinent to communication teachers and researchers. The first step toward that ambitious goal is within our own discipline.

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