Giving voice to jazz singers' experiences of flow in improvisation

Abstract

Jazz instrumentalists' experiences of improvisation have informed psychological research on a range of topics including flow in improvisation, yet there is scant evidence of jazz singers' improvising experiences. Using Interpretative Phenomenological Analysis (IPA), this study investigated the experiences of three professional Australian jazz singers who improvise extensively in their performance practice: How do these singers experience improvisation? IPA of semi-structured interviews with the singers resulted in two superordinate themes which both related to the flow state: 1) singers experienced flow when improvisation "went well"; 2) singers experienced flow as meaningful—flow provided singers with both the freedom to express the self and the opportunity to contribute to something *beyond* the self. These findings reveal a new context for flow experiences. Implications for vocal jazz education and practice are discussed.

Keywords

jazz singers, improvisation, flow, IPA, musical experiences

Improvisation in jazz is a unique creative, cognitive and psychological process (MacDonald & Wilson, 2005, 2006; Sawyer, 1992, 2006). Jazz instrumentalists' experiences of improvisation have informed research on a range of topics including group creativity (Sawyer, 2006), identity construction (MacDonald & Wilson, 2005, 2006; Wilson & MacDonald, 2005, 2012), high level jazz performance and flow experiences (Hytönen-Ng, 2013), artist-level improvisational thinking (Norgaard, 2011) and confident improvisation (Shevock, 2018). However, the research focus on instrumentalists has left jazz singers' experiences of improvisation largely shrouded in mystery.

A perception of singers from the world of practice may partly explain the lack of research interest in vocal jazz improvisation. Hargreaves (2013) reports that some jazz musicians and certain jazz educators view singers as under-achieving improvisers compared to instrumentalists. Some researchers specifically exclude singers from study—MacDonald and Wilson (2005) did not include singers in their study of jazz musicians' identities, in part, they argue, because singers play "a less improvisatory musical role" (p. 399). Others speculate that there simply aren't that many skilled improvising singers: "for every first-rate

scat singer in the world there must be 500 talented saxophonists" (Pressing, 1988, p. 135). Such views do not acknowledge that improvisation is fundamental to many jazz singers' performance practice and identity (Crowther & Pinfold, 1997; Yanow, 2008). There are abundant examples of present-day jazz singers who improvise in different ways across a wide variety of contexts (to name but a few: straight ahead jazz—Jazzmeia Horn, Kurt Elling, Anita Wardell, Dianne Reeves, Michelle Nicolle; jazz/free improvising—Maggie Nicols, Phil Minton; latin jazz—Claudia Acuna, Venissa Santi; cross-genre—Lauren Kinsella, Jo Lawry, Kate McGarry; looping—Cyrille Aimée, Grace McLean). Jazz singers' experiences of improvisation warrant investigation.

Flow is complete absorption in a task (Csikszentmihalyi, 1975, 2002). It is a form of optimal experience comprising a complex dance of cognitive, physiological and affective processes (Csikszentmihalyi, 1975, 2002). There has been increased research interest in flow and music (see Tan & Sin, 2019 for a systematic review). Flow experiences during improvisation are an important part of jazz culture and performance and are seen as integral to jazz musicians' competence as improvisers (Hytönen-Ng, 2013). Research has established the existence of flow experiences during improvisation for jazz instrumentalists (Hytönen-Ng, 2013), and explored the relationship between neurochemistry and social or group flow for student jazz singers in a small vocal group (Keeler et al., 2015). However, less is known about individual professional jazz singers' experiences of flow during improvisation.

Understanding these singers' flow experiences has implications for jazz education. Nakamura and Csikszentmihalyi (2009) observe that flow encourages persistence with an activity leading to skills development over time. Flow experiences are identified in the literature as an important motivator for instrumentalists' prolonged engagement in jazz improvisation (Hytönen-Ng, 2013; Kenny & Gellrich, 2002) and within music practice more broadly (O'Neill, 1999). Understanding this aspect of flow experiences has informed innovations in music education (e.g. Bernard, 2009; Biasutti, 2015; Custodero, 2002; Riggs, 2006).

To obtain a more complete picture of flow in jazz improvisation, it is important for research to explore singers' experiences. Understandings from this research can inform vocal jazz education. This is particularly important given that learning to improvise with the voice in jazz poses unique challenges (Berkman, 2009; Hargreaves, 2012, 2013; Pressing, 1988; Weir, 2011). Furthermore, given the importance of flow within jazz culture and practice,

exploring singers' flow experiences may begin to address perceptions in practice that singers under-achieve in jazz improvisation.

Flow in jazz improvisation

Csikszentmihalyi's (1975, 2002) flow theory is a process theory of happiness—flow is an optimal state which contributes to human flourishing and wellbeing (Csikszentmihalyi, 1975, 2002; Nakamura & Csikszentmihalyi, 2009; Seligman, 2011). Cohen and Bodner (2018) usefully characterise the nine dimensions of flow (Nakamura & Csikszentmihalyi, 2009) as either pre-conditions to flow or experiential characteristics. They identify the preconditions to flow as perceived balance between skills and challenge, clear goals and unambiguous, immediate feedback. Characteristics of flow are focused concentration, intrinsically rewarding experiences, a sense of losing time, merging of action and awareness, loss of self-consciousness, and a sense of control (Cohen & Bodner, 2018). Maintaining flow is a balancing act—challenges which cannot be matched by skill create anxiety, and skills exceeding challenges lead to boredom (Nakamura & Csikszentmihalyi, 2009). As one's skills develop, one must seek out more difficult challenges to access and maintain the flow state (Nakamura & Csikszentmihalyi, 2009).

Jazz musicians describe the flow state during improvisation as being "in the present", "nirvana", and an "altered state" (MacDonald & Wilson, 2006, p. 64). Kenny and Gellrich (2002, p. 119) use phrases such as "ecstatic" and "quasi-narcotic". Hytönen-Ng's (2013) book-length phenomenological investigation into flow experiences in jazz performance is an important touchstone for the current study. Hytönen-Ng focused on the flow state, and jazz instrumentalists' constructions and articulations of their experiences of flow. At the risk of over-simplifying Hytönen-Ng's extensive findings, jazz instrumentalists experienced flow variously as: positive feelings (in some cases extreme physical, even sexual pleasure); providing a sense of satisfaction in their life choices to pursue music; a strong and intrinsically motivating force due to its "meaningfulness"; fundamental to identity construction, self-acceptance and self-development; a form of emotional release; connected to instrumentalists' sense of professionalism; collective and strongly relational (involving musicians and audience); and dependent on physical states as well as physical environment. For instrumentalists to experience flow, they needed to love and be committed to jazz; rely on intuition, spontaneity and be open to experience; and not try to consciously control the music. Hytönen-Ng discusses the connection between flow, mysticism, spirituality and altered states

of consciousness. Whilst Hytönen-Ng's book is undoubtedly an extensive treatment of flow in jazz, of the 18 participants in the study, none were jazz vocalists.. There is therefore scope for the exploration of professional singers' experiences of flow in jazz improvisation.

Jazz singers and improvisation

An understanding of some basic differences between improvising singers and instrumentalists provides context for this exploration. These differences stem from the nature of the vocal instrument. Motor feedback during improvisation plays an important role in correcting errors and adaptation, and narrows the gap between musical intention and effect (Pressing, 1988). Singers rely on restricted sources of motor feedback compared to instrumentalists when pitching improvisations (Pressing, 1988). For example, due to the internal nature of their instrument, a singer cannot rely on visual or tactile feedback (contrast with a pianist, who is able to access this feedback by looking at, or touching the keys—see Sudnow, 2001). Singers only have access to aural and (limited) proprioceptive feedback (Pressing, 1988). Therefore, singers' motor feedback during improvisation is limited to what they can hear from themselves and the other musicians, and to a much less extent, how their voice *feels*. Hargreaves (2013) confirmed that aural feedback was the dominant feedback source during improvisation for the jazz singers in her study. It is important to understand what feedback is a vailable to singers during improvisation because access to unambiguous and immediate feedback is a pre-condition to the flow state (Csikszentmihalyi, 1975, 2002).

The biological nature of the vocal instrument may have further psychological implications for improvising jazz singers' experiences. Singers are susceptible to the vagaries of environment, health, and personal psychological states. For example, a singer with laryngitis is under a greater handicap than an instrumentalist because inflammation inhibits the free movement of the vocal folds, thus directly impacting the instrument (McCoy, 2012). Fear and performance anxiety have physical consequences for the vocalist—tension within the voice can destabilize the instrument (Hargreaves, 2013; McCoy, 2012; McKinney, 1994). Moreover, the biological nature of the singing instrument can result in singers conflating the personal and the performative, with imperfections in performance being equated with personal inadequacies (Hargreaves, 2013; see also Wehr-Flowers, 2006). Jazz improvisation inevitably involves making mistakes (Berliner, 1994) and a significant element of psychological risk (Kenny & Gellrich, 2002). According to Csikszentmihalyi (1975, 2002), negative thoughts or critical self-assessments during an activity impede flow. The

particularities of the biological instrument have the potential to influence singers' improvising experiences and access to flow.

Method

This study explores how professional jazz singers experience improvisation, to establish whether and how they experience flow. Interpretative Phenomenological Analysis (IPA) (Smith, Flowers & Larkin, 2009) was used to investigate the experiences of three Australian professional improvising jazz singers: How do these singers experience improvisation?

IPA is both *phenomenological* and *interpretative* (Larkin, Watts, & Clifton, 2006; Smith, Flowers, & Larkin, 2009). First, IPA researchers aim to describe and understand participants' experiences of a phenomenon, with an acknowledgement that accessing another's experience will inevitably result in an account of experience which is a coconstruction between participant and researcher (Larkin, Watts, & Clifton, 2006; Smith, Flowers, & Larkin, 2009). Second, the researcher develops an "overtly *interpretative* analysis" which situates the description within broader social, cultural and/or theoretical contexts (Larkin, Watts, & Clifton, 2006, p. 104, emphasis in original). Thus within IPA, and drawing from the philosophy of Heidegger, phenomenology is "a hermeneutic enterprise": "the analyst is implicated" in the way in which the phenomenon both *appears* and is *interpreted* (Smith, Flowers, & Larkin, 2009, p. 28). IPA researchers engage in a double hermeneutic—they make sense of participants' attempts at making sense or meaning out of their experiences. Thus, the researcher's sense-making or interpretation of these experiences—to establish the meaning they hold for participants—is central to IPA (Smith, Larkin, & Flowers, 2009, p. 3).

Participants and procedure

Three singers were purposively selected on the basis of their extensive experience of vocal jazz improvisation and their willingness to discuss their experiences in detail (Smith, Flowers & Larkin, 2009). Small participant pools are common in IPA—three participants provides researchers with sufficient scope for individual case analysis as well as comparison between cases (Holmes & Holmes, 2013; Smith, Flowers & Larkin, 2006; e.g. Erasmus & van der Merwe, 2017). Each participant has engaged with improvisation for well in excess of

a decade and considers improvisation to be central to their performance practice and artistic identity. Participants all have university qualifications in jazz performance. Each singer has commercially available recordings and is currently engaged in a busy live performing schedule (two perform internationally). All are Australian citizens although not all are based in Australia. Participants were asked to provide a pseudonym for the purposes of retaining anonymity in the reporting of findings.

Pseudonym	Age	Gender	Years	Interview length	Transcript
			improvising		length (words)
Matilda	38	F	23	1:54:27, 77:51	17,370 + 10,881
Julia	32	F	16	39:24	6,862
Tim	34	М	14	66:09	9,368

Table 1: Participants details

Interviews were conducted in the order presented in Table 1 (Matilda, Julia, Tim). IPA acknowledges that the development of an interview protocol is iterative and can change after a pilot or first interview (Smith, Flowers, & Larkin, 2009). The interview protocol in this study was modified after the first interview with Matilda. The protocol was initially developed using Seidman's (2006) "three interview" technique to explore participants' life history relevant to the phenomenon (interview 1), their description of experiences of the phenomenon (interview 2), and their reflection on the meaning of those experiences (interview 3). The first interview with Matilda covered her life history relevant to music participation, including vocal jazz improvisation. The scope of the interview was too broad. It became apparent that one interview for subsequent participants would be sufficient and that more targeted questioning regarding life history was required. The interview protocol was modified for interviews with Julia and Tim to cover the three parts of Seidman's technique within a single interview, rather than across a series of three interviews (see Appendix). Questions regarding life history during interviews with Julia and Tim were targeted only at eliciting responses relevant to vocal improvisation-all other questions remained the same across interviews with all participants. Significant portions of interview 1 with Matilda were not relevant and discounted from analysis. Interviews were conducted in person with Matilda, and via Zoom video conferencing software with Julia and Tim. Interviews were audio recorded and transcribed by the researcher verbatim. For ease of reading, direct quotations appearing below have been edited by removing repetition or utterances which do not add to intelligibility.

In accordance with the approach suggested by Csikszentmihalyi (1975, 2002) and Nakamura and Csikszentmihalyi (2009), this study used subjective reports of *how it feels when an activity goes well* to explore whether and how participants experienced flow during improvisation. Participants were not asked explicitly about flow experiences—they were asked to describe improvising experiences which "went well" or felt "successful", and, conversely, experiences that "didn't go so well". The word "flow" was not used in the interview protocol (see Appendix) and but was used during interviews in response to participants' explicit use of the term "flow".

Data analysis followed Smith, Flowers and Larkin's (2009) six step process for IPA:

1) transcripts were read and re-read in hard copy (initial notes were taken at this stage in the margins of transcripts). This involved "close, line-by-line analysis of the experiential claims, concerns, and understandings of each participant" (Smith, Flowers, & Larkin, 2009, p. 79);

2) transcripts were then imported into NVIVO for more targeted coding with descriptive and conceptual commentary;

3) the researcher developed emergent themes or "concise and pithy" statements (Smith, Flowers, & Larkin, 2009, p. 92) from the coding and commentary (see Table 2). At this stage of analysis, emergent themes should closely reflect participants' experiences but will be the product of the researcher's developing or emerging interpretation of the data (Braun & Clarke, 2013; Smith, Flowers, & Larkin, 2009).

4) connections across emergent themes were identified—this involved the researcher using *abstraction* (grouping "like" themes together to form thematic clusters); *numeration* (using theme frequency to support its importance) and identifying a theme's *function* within the transcript (what role does the theme play in the participant's description?);

5) steps1–4 were repeated for each case;

6) convergent themes were identified across cases, and superordinate themes constructed using the analytic strategies of abstraction, numeration and function.

Validity of analysis is supported by including sufficient quotes from the interview data with the findings (Smith, Flowers & Larkin, 2009).

During the later stages of analysis, the researcher engaged in a "dialogue" with the coded data and the flow literature "about what it might mean for participants to have these concerns, in this context" (Smith, Flowers & Larkin, 2009, p. 79).

Analysis and discussion

The aim of this study was to explore how jazz singers experience improvisation to establish whether and how these singers experience flow. IPA resulted in two superordinate themes in relation to singers' improvisation experiences (see Table 2):

- 1. singers experience flow when improvisation "goes well"
- 2. singers experience flow as meaningful

Superordinate themes	Emergent themes	Initial codes
	Tim "Good" improvisation as flow (lose time, self) Letting go and vulnerability	
	Conscious/unconscious states/mistakes Improvisation is relational	
Theme 1: Singers experience flow when	We are communicating emotions when we improvise The role of the body in flow	
improvisation "goes well"	Improv as a tool for living	
	Improv as a tool for expressing the self Improv as a tool for connection	
	Improv as lifelong practice for self-discovery	
	Julia	
	Improv as a tool for self-expression Improv as lifelong practice for self-discovery	Flow Risk
	Improv as a tool for self-expression and for emotional expression and communication	Thinking/not thinking Work and preparation
	When we improvise we express emotions Emotions are source material for improvisations	Gesture and the body The audience
	Conscious/unconscious states/mistakes	The musicians
	Lack of awareness	Hearing/listening
	Improvisation is relational and this impacts flow Improv is relational – audience; energy as source material for improv	Artistic concept Mistakes
	The singer as a vessel for the music; letting go; receiving	Freedom of expression
THEME 2: Singers	Improvisation is flow (lose time, self)	Expression of emotions
experience flow as	Physical manifestations of flow	Serve the music The role of the singer
meaningful	Matilda	Comparison
	Serving the music—a higher purpose; singer as vessel	Singer cf instrumentalist
	Music as a personally transformative force; music as a teacher in life	6
	Hard work as a pre-req for good improv	
	Improv is relational; gratitude for others	
	Improv as a tool for self-expression; creativity; improv as expressing	
	meaning and emotion; expressing musical values	
	Improv is flow (lose time, self) Allowing self to be seen; vulnerability; taking risks; safety; take focus off	
	Allowing self to be seen; vulnerability; taking risks; safety; take focus off the self	
	Conscious/unconscious states/transforming mistakes	
Table 2: Development of supe	The role of the body in improvisation	

Table 2: Development of superordinate themes

Theme 1: Singers experience flow when improvisation "goes well"

Singers explicitly used the term "flow" to describe improvisation that "goes well". Singers' experiences were interpreted by the researcher as exhibiting pre-conditions to flow and flow characteristics as outlined in the literature.

Descriptions of flow. Unprompted by any specific reference to flow in interview questions, each singer explicitly used the term "flow" to describe what it felt like when improvisation went well. For example:

It's such an out of body experience...you get tingles in your body...you're completely in flow. So you lose time, lose sense of everything. It's so, so high, like, I don't know how to explain it. But it's a better drug than anything in the world. (Julia)

that feeling is quite euphoric, it's a totally flow state and it's all feeling pretty positive. (Julia)

For Tim, improvising "definitely works best when we're all, we all feel like we're in that state of flow." Matilda describes being "in the moment" and mentions "flow" when asked to reflect on improvisation that went well:

I didn't worry about the changes, I was just completely in, I was just making my, it was joyous, and it was beautiful and I knew it was real and...I dunno whether I even thought it was good, I just knew it was good because it had this flow and it had this energy around it.

Matilda differentiates between her experience of improvising on another instrument and the voice in terms of flow: "[the other instrument] never flowed, whereas with the voice, it was flowing, and I, it was one place where I could express myself." In Matilda's examples, rather than referring explicitly to the "flow state", "flow" is used as a metaphor to describe what good improvising *feels like*. Numerous explicit references to "flow" or variations were present in each transcript (Julia—8 instances; Tim—14; Matilda—8). This repeated and explicit use of the term "flow" in each case is perhaps evidence of the term's transition from the psychological literature into everyday parlance (or its place within jazz culture). Nonetheless, singers described improvisation that "goes well" metaphorically as "flow"/"flowing", or literally as being "in flow" or the "flow state".

Characteristics of flow. Whether knowingly or not, singers were accurately using the term flow in the sense that term is defined in the academic literature—singers' experiences of improvisation that "goes well" exhibited all the characteristics of flow:

- losing track of time (Julia: "you lose time, lose sense of everything"; "I completely have no idea what time it is") or being in the present (Matilda: "meditative state"; Tim: "state of mindfulness")
- a sense of control without trying to control (Matlida: "I didn't worry about the changes"; Julia: "downloading", "receiving" the music; Tim: "I never really know if I'm driving the car or not!")

- improvisation as rewarding (Matilda: "beautiful", "joyous"; Julia: "high", "real", "tingles"; Tim: "like a second home")
- merging of action and awareness and loss of self-consciousness (Matlida: "I was completely in....I just knew it was good"; Julia: "[you] lose sense of everything"; Tim: "I lose myself").
- focused concentration (Matilda: "you can hear the changes, you can hear where it's going and then you start to hear the melody happening in the distance";
 Tim: "a heightened sense of focus, oneness"; Julia: "being able to *actually receive* also what's coming, and *listening*, being able to *listen* at the same time").

These characteristics are discussed further below. Not only did singers explicitly describe their successful improvising as flow (or feeling flow-like), but their improvising experiences displayed flow characteristics as outlined in the literature.

Mental preparation. Singers describe engaging in self-talk and visualization during improvisation. Matilda speaks of "letting go", being "real" and "authentic", giving herself permission to make mistakes, visualizing herself as a vessel for the music, "making space for others", and "trusting" herself and the other musicians: "I try to stay myself and completely vulnerable...I don't put any masks on I guess, like I don't tidy things up along the way" (Matilda). For Julia, the experience is one of "getting in the zone": "It is...having complete trust, that if you just let whatever download or whatever needs to come in, come in, and you just allow it to happen." Similarly Tim describes how he "jumps in" and trusts his intuition. According to Tim, "vulnerability is the key". In terms of flow theory, this mental preparation can be viewed as a pre-condition to flow: singers are setting a clear goal to fully engage in the music. They also appear to be engaging in focused concentration in order to optimally access feedback.

Physical preparation. Each singer uses physical strategies to "get in the zone" (Julia). Singers explained that this is an attempt to focus intently on listening. Matilda delivers the lyrics with her eyes open so she can communicate the literal meanings to the audience; however, upon embarking on an improvised solo, she immediately closes her eyes. Matilda says this helps focus her attention on the other musicians: "I just want to focus on making a new melody with the people I'm playing with and try to notice them probably more than anything else that's happening in the room". Tim turns towards the source of his own sound to maintain focused concentration on listening. Julia orients herself the other instruments.

These practices suggest that singers are attempting to optimize what limited motor feedback they have available to them during improvisation, namely, aural feedback from both themselves and the other musicians (Pressing, 1988). Access to unambiguous and immediate feedback is a pre-condition of the flow state. Thus, the contributions of the other musicians (as well as being able to hear oneself) is a vital component of successful vocal improvisation leading to flow. Whilst all singers describe using hand gestures and some bodily movement with the music, these aspects of performance seem to be an unconscious by-product of flow for these singers, rather than a strategy to achieve focused concentration.

Flow is relational. Matilda discusses the key role of the other musicians in successful improvisation, particularly when it feels as if all the musicians are on the "same wavelength" or striving artistically for similar ideals:

I think it's because of the people you're working with, if you're all wanting to serve the music and you acknowledge that you need each other to make the music, you're all listening so much and giving hopefully just what is needed, and so then it becomes this really joyous exchange where you feel like, no matter what happens, you're gonna be caught...it's like you're all kind of just helping one another sort of swing through the trees and that no-one falls because mistakes aren't mistakes they are just a new way of going through, like you start kind of realizing these things...(Matilda)

Matilda's transcript is imbued throughout with a sense of improvisation as a selfless, giving act, where musicians are mutually supporting and inspiring one another to constantly strive for greater creative heights—a kind of musical "utopian society":

when other people are creating from that same kind of control centre [as you], it's like ...you're finally in the rocket ship with people who know how to drive it...it's like "you've got that bit and I've got this bit and we needed to find one another and now let's..." It's like the power rangers! (Matilda)

When Tim is supported by the other musicians he can "transcend" and "really take off": "You spur each other on, and in that sense, it's a unique collective thing that's happening in real time...Whether it's peer pressure, or kind of shared excitement definitely adds to the experience." Julia recounts a recent intense experience during improvisation where she had not met the musicians previously. This required her to implicitly trust the musicians, and their professionalism meant that despite the lack of personal familiarity, everyone was on the same "wavelength": "So I think what's important is one, yourself, but then also then allowing that you can trust that they've [the other musicians] got it, so that you can just all have a great time" (Julia). Interestingly, both Julia and Matilda use the metaphor "wavelength" to describe the way they experience the other musicians during improvisation. From these accounts, flow

experiences can occur when singers experience sharing the same musical goals as the other musicians.

The audience also plays a role in successful improvisation for the singers. Julia sees the audience as a source of energy and emotional feedback for improvisation:

[in] a room full of energy...you can create more...kind of taking more risks and seeing where it's going to go because they will go with you. They'll be like, Oh, yeah! And you get that feedback...which is really kind of positive...and you start to go off. And they're like, "YES!"

Conversely, Matilda laments that lack of feedback from an audience can hinder her willingness to show vulnerability:

it does make it difficult...it feels less safe...you start to draw in, you start to protect a bit, and you start to not give as much, because you're worried that they don't like... You start to draw back in, and you start not taking risks...

This may be interpreted as Matilda requiring some positive audience feedback as a precondition to flow. Tim acknowledges the role of the audience in communicating. For him, they are the primary target for his "message" which is communicated via non-intelligible language. The audience's reactions therefore appear to be an important source of feedback for singers which can either facilitate or inhibit flow experiences.

Dealing with mistakes. Mistakes were generally experienced by the singers as a source for further inspiration and surprising new directions. As Matilda describes:

It's like celebrating the mistakes. I used to think the mistakes were bad...But then through making mistakes in music and allowing them to happen and almost, almost celebrating them in a way...you take power out of it, it loses its sting and ...it's back to being joyful and playful. And people pick up on that energy...it's like choose your own adventure. You can shut the joy down when you make a mistake, or you can just choose to go to page 27 and keep the story going. Oh, I love those!

Both Julia and Tim are able to re-frame mistakes as further fodder for improvisation. Tim says that mistakes are "the key to a sort of new neural pattern...a new sound and a new possibility". Julia describes creating something entirely novel and unexpected through making mistakes. These singers' mistakes become simply "a new way of going through" (Matilda). This approach demonstrates the singers' ability to advantageously use the immediate feedback being presented during improvisation to spontaneously formulate new goals to maintain flow.

Flow is impeded by negative thoughts. Each participant conveyed that negative thought is fatal to successful improvisation. This accords with Csikszentmihalyi (1975, 2002) that self-criticism or negative thoughts can impede flow. Matilda describes the intrusion of

the "analytical voice": "...sometimes if I find myself *trying* too hard again, I'm like 'whoah!". Matilda reports mentally "gesturing" to her self-critical thoughts to "take a seat" to be dealt with later. Paradoxically, to address this break in flow, Matilda uses explicit mental directions to break the cycle of analytical thought. This involves simple instructions such as "rhythm", "tone" or "space", thus giving herself "a greater focus": "So then I'll just say to myself 'space' because I'm trying so hard to do something good that I go, 'space' or 'silence' and that one's amazing cause suddenly you stop and you start hearing again." Julia similarly discusses using specific self-talk strategies when she becomes aware of selfcriticism:

It's generally a fight with the mind, it's like a total mind game. So it's generally like when you're not in flow state, well, for me, personally, I'm going fuck fuck fuck. And it's like, "Julia, listen, listen, let go, let go". So it's always a letting go.

Tim describes these mental intrusions as "disappearing down the brainstem and really listening to that anxiety instead of what I think is keeping that sort of frontal cortex going with ideas and flow and state of alertness but not anxiety." Participants did not discuss any other cognitive strategies for improvising (such as those used by instrumentalists: see Norgaard, 2011) other than those which were interpreted as being designed to deal with negative thoughts in order to regain flow.

THEME 2: Singers experience flow as meaningful

Interpreting the significance or meaning for participants of the experiences under investigation is a central concern for IPA researchers (Smith, Flowers, & Larkin, 2009).

Singers spoke of their successful improvisation experiences as a vehicle for expression of the true and authentic self, resulting in a genuine sense of fulfilment and satisfaction with their improvisation practice. Julia reflects: "It depends what *you* want to be, who *you* are, and who *you* are defines then everything else... there's no one way to do this. And that opened up my whole world". For Matilda, improvisation is a way for her to give to others, to share her love of music, and to communicate deeply with other musicians and the audience. Matilda speaks in terms of her improvising practice as a form of service—she is not feeding her own ego, but rather serving the higher purpose of the music to communicate with people: "it's not about me, I don't want it to be about me, I just want people to experience music the way I did when I was a kid in my room and I was given a little healthy escape from my life. That's all I want, really." Julia similarly expresses deep gratitude for the privilege of using her voice to create and express:

It just means being able to be myself, I think, being able to speak my truth myself, be myself, and do what I love, I think. And be passionate and be able to share...share who I am, and share that with other people...

Tim specifically identifies vocal improvisation's non-intelligibility as enabling him to "access something deeper"—for him, "the closest I've ever felt to that really free expression has been singing and improvising at the same time". Seligman (2011) denotes experiences as meaningful if they allow us to belong to, or serve something bigger than the self. For these singers, flow in improvisation is experienced as both the freedom to express the authentic self and a way of making a unique contribution to something *beyond* the self. When in flow, singers were free to "serve the music" (Matilda).

In addition to the opportunities improvisation and flow experiences provide for selfexpression and transcendence of self, each singer acknowledges the broader role improvisation has played in their life. Tim reflects that his flow experiences during improvisation have cultivated mindfulness and present-moment awareness. Matilda has used her successful improvisation experiences to learn to accept mistakes, to feel and express gratitude and to form strong positive relationships with others. Julia finds the ongoing challenge of accessing flow in improvisation thrilling, and loves being "pushed to continue to grow" (a possible reference to continuously building skills to meet increasingly complex musical tasks in order to achieve flow). In short, singers' experiences reveal that their improvisatory practice, strongly characterised by flow experiences, contributes to a sense of purpose and meaning. Flow experiences appear to be intrinsically rewarding for these singers, worth pursuing "for their own sake" (Nakamura & Csikszentmihalyi, 2009; Seligman, 2011).

General discussion

Earlier, a gap in the literature was identified regarding professional jazz singers' experiences of improvisation. Some key differences between singers and instrumentalists were noted to provide context, and the specific qualities of the vocal instrument were flagged as having the potential to impact singers' flow experiences. Ultimately, however, there was little in the analysis of singers' experiences of improvisation to suggest that their status as vocalists was material to their flow experiences.

Singers' limited motor feedback sources during improvisation (compared to instrumentalists) (Pressing, 1988) did not appear impede their ability to access flow. Through both mental and physical preparation, participant singers were able to achieve focused concentration to gain optimal access to the aural feedback required to pitch improvisations.

Singers were able to spontaneously reformulate mistakes as new goals.

The tendency for some singers to equate self-worth with quality of performance (Hargreaves, 2013) was not a barrier to accessing flow, unless the singers allowed selfcritical thoughts to intrude. These unwelcome thoughts tended to contain negative selfassessments which interrupted flow experiences (this is an example of singers *not* being able to recast mistakes as new goals). However, these experiences are no different to those of instrumentalists (see Hytönen-Ng, 2013; Werner, 1996 for similar accounts amongst instrumentalists).

It was also noted earlier that performance anxiety can cause vocal tension which may potentially impact flow experiences (proprioceptive feedback being a minor source of motor feedback for singers). Whilst not of sufficient import to constitute a significant aspect of the analysis, two isolated examples are worth noting. Tim and Matilda both spoke briefly of the physiological impact of vocal tension on the singing voice which can lead to unintended consequences when improvising. Self-talk strategies were used to "move beyond" these experiences. Whilst such experiences stem from the vocal instrument itself, instrumentalists experience similar consequences when improvising—for example, the shaking hands of a guitarist, or a trumpeter's trembling lips. Therefore the vocal instrument did not, in and of itself, appear to have any material bearing on flow experiences beyond those experienced by any improvising musician dealing with anxiety.

Beyond the examples mentioned, there was no other discussion of performance anxiety (or experiences exhibiting the characteristics of performance anxiety). This could be taken as further indication that singers' skills were largely matched to the musical challenges they faced, as a mismatch can produce anxiety (Nakamura & Csikszentmihalyi, 2009).

Singers derived meaning from the opportunity improvisation affords for unique emotional and self-expression. Flow in improvisation was a way for these singers to experience freedom—to "swing through the trees"—and temporarily transcend the material world. When this occurred, the singers were free of their "me-ness" and felt that they were serving something bigger than themselves—they merged with the music, and it was a "joyous exchange". This sense of a dimension beyond the self is of course part of many spiritual and religious traditions and the profundity of the singers' experiences accords with instrumentalists' accounts (Hytönen-Ng, 2013; Kenny & Gellrich, 2002).

Singers' flow experiences have implications for jazz education. The opportunity to experience flow during learning may provide motivation (Riggs, 2006) and confidence

(Shevock, 2018) for the developing vocal jazz improviser. Flow experiences are intrinsically rewarding, encouraging persistence in an activity, and thus fostering skills development over time (Nakamura & Csikszentmihalyi, 2009). Thoughtful educational design in both one-to-one and group contexts may provide even beginner vocal improvisers with the chance to experience the intrinsic rewards of flow during improvisation, leading to more prolonged engagement. A feeling of competence is necessary to produce flow (Csikszentmihalyi, 2002), therefore vocal jazz educators would need to carefully scaffold learning activities so that students' skills are suitably matched to improvisatory tasks. Jazz educators might also consider introducing explicit discussion of flow in improvisation into vocal jazz education, thus raising awareness of flow, rather than relegating this important topic to the domain of jazz mythology (see also Biasutti, 2015). Future research might consider whether such strategies in education prolong engagement with vocal jazz improvisation or inspire professional careers in jazz singing.

Conclusion

This phenomenological study "gives voice" (Larkin, Watts, & Clifton, 2006) to improvising jazz singers' experiences—like their instrumentalist counterparts, these singers experienced flow in improvisation. These experiences were meaningful for the singers—flow was both a means of personal expression and a way of belonging to, or serving something beyond the self. Flow experiences are viewed by jazz musicians as an indicator of improvisational competence and integral to jazz culture and practice (Hytönen-Ng, 2013). These findings therefore encourage greater understanding of, and respect for, the contributions of improvising jazz singers to the art form.

Human ethics approval

This study received approval for the collection of data from human participants. Participants were provided with a detailed information sheet outlining the risks and benefits of participation and each provided written consent to their participation.

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Appendix—Interview Protocol (based on Seidman, 2006)

Part 1: Focused life history.

How did you become involved in vocal jazz improvisation?

Can you tell me broadly what place vocal jazz improvisation has in your life at the moment?

Part 2: Details of experience.

Can you reconstruct a particular instance of vocal improvisation? e.g. Where you felt things went well? Where you felt things didn't go so well? What do you think were the differences?

What do you actually do when you improvise with your voice? What are the stages involved?

What is happening around you when you improvise?

Can you describe where vocal improvisation typically takes place for you?

Part 3: Reflection on meaning.

Given what you have said about your life and the details of vocal improvisation, how do you understand vocal improvisation in your life?

What does an audience's reaction mean to you as a vocal jazz improviser?

What sense does it make to you?

What meaning does vocal jazz improvisation hold for you?

Can you imagine what life would be like for you without improvisation?