Gender associations and musical instruments: understanding the responses of nursery-aged children

Article (Accepted Version)


This version is available from Sussex Research Online: http://sro.sussex.ac.uk/id/eprint/94935/

This document is made available in accordance with publisher policies and may differ from the published version or from the version of record. If you wish to cite this item you are advised to consult the publisher’s version. Please see the URL above for details on accessing the published version.

Copyright and reuse:
Sussex Research Online is a digital repository of the research output of the University.

Copyright and all moral rights to the version of the paper presented here belong to the individual author(s) and/or other copyright owners. To the extent reasonable and practicable, the material made available in SRO has been checked for eligibility before being made available.

Copies of full text items generally can be reproduced, displayed or performed and given to third parties in any format or medium for personal research or study, educational, or not-for-profit purposes without prior permission or charge, provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way.

http://sro.sussex.ac.uk
Stereotyping the gender of musical instruments:
Understanding the responses of nursery aged children.

Word count: 9457
The term ‘gender stereotype’, relates to the beliefs that individuals hold about the characteristics which belong to a particular gender (Biernat and Kobrynowicz, 1999). The precise age at which children begin to develop ideas about gender roles and gender stereotypes, the pattern by which these stereotypical attitudes develop, and the facets of a society around which stereotypes form, have received varied levels of attention. For example, the development of stereotypical attitudes towards toys has received very high levels of interest (Cherney and Dempsey, 2010; Dinella & Weisgram, 2018), whereas research that directly explores how very young children think about, and rationalise their decisions about gender stereotypes, is relatively unknown (Blakemore, Bernbaum & Liben, 2013). However, regardless of the ages, and the stages through which stereotypes develop, there is an increasing acceptance of the fact that understanding how such beliefs develop in early childhood, is of particular importance for a number of reasons. First, it has been argued that stereotypes in very young children can have a major impact not only on the development of particular skills, (Dinella & Weisgram, 2018; Jirout, & Newcombe, 2015) but also on the decisions and choices that young children make in later life by limiting choices to those which they see as being gender appropriate (Blakemore & Centers, 2005). Second, children’s life chances appear to be heavily predicted by their development and the learning that takes place in the first five years of life (Field, 2010), and it is these ‘opportunities for learning and development in those crucial years that together determine whether their potential is realised in adult life’

Globally, society remains gender differentiated and in particular, the contribution to economic growth and development to be gained from enabling males and females to achieve their full potential, is often not acknowledged (Cooray & Potrafke, 2011; Haines, Deaux, & Lofaro, 2016). Inappropriate gender norms still seem to exist in all levels of society (Unicef, 2020), and the development of inappropriate stereotypes that directly, or indirectly limit expectations and aspirations, appears to be one factor preventing many individuals from achieving their true potential (Bian et al., 2017; Marcus, 2019). Certainly, given the inequalities that can stem from inappropriate stereotypical attitudes, an increased understanding of the development of potentially limiting gender stereotypes in the early years must surely be a crucial element to be addressed further with schools, and in particular early years educators, clearly have an important role to play (Dodge et al., 2017; Lynch, 2015; Maccoby, 2002; Mulvey & Killen, 2015). Socially, and in spite of numerous key actions, UNESCO (2020) reports that females represent a tiny percentage of students studying science and technology subjects in Higher Education, are significantly under-represented in the cultural and creative industries, and of the number of children globally who will never attend school, the majority are female.

Whilst a significant level of attention has been given to challenging inappropriate stereotypes in older children (Childhood Education, 2019), previous research suggests that many gender stereotypes already exist by the age of three (MacNaughton, 2009; Martin et al., 2012; Reference withheld). Therefore, it may well be that well-established stereotypes are being challenged too late and in inappropriate ways, due to a lack of understanding as to what precise experiences impact on their complex development and how to challenge them effectively (Emilson, Folkesson & Lindberg, 2016). Indeed, specific work on challenging the formation of gender stereotypes has suggested that schools are still not able to do this in a way that is effective, and a significant gap exists in our knowledge of what experiences impact on their development (Mulvey & Killen, 2015). For example,
Horn and Sinno, (2014), found that pushing some children towards non-stereotypical activities could be the cause of some children becoming socially isolated, socially excluded (Lee & Troop-Gordon, 2011) and suffering from victimisation (Aspenlieder et al., 2009).

To date, pedagogical initiatives aimed at challenging the development of inappropriate stereotypes in schools have had limited results for a whole range of reasons (Chisamya et al., 2012; Jaboneta, 2018). Wingrave (2018) for example, identified issues of ‘gender blindness’ amongst pre-school practitioners who believed that gender was either biological and innate, or mainly learned from families. As such, they argued that teachers had no role to play in a child’s gender development. Gullberg et al., (2017), found similar views amongst student teachers carrying out a placement in preschool science classes highlighting how, ‘gender – unaware pedagogy has consequences at subject level’ (p.711). Although the Norwegian Government places gender equality as a core value, and the Norwegian Kindergarten Act requires all teachers to promote equality, Meland and Kaltvedt (2017), still found that Norwegian kindergarten teachers frequently related differently towards girls and boys which in turn they argue, contributed towards the upholding of traditional stereotypes; a finding that prompted them to conclude that:

‘Kindergartens must continually analyse their own actions so that stereotypical gender roles can be counteracted in order to break ongoing gender role practices and thereby facilitate change within education and kindergarten practice’ (p.101)

It is within this context that we position the current study.

**Gender associations, and stereotypes**

The issue of how and why different societies group specific behaviours and practices together and attribute them to one gender or another, has been well debated, with a number of competing theoretical perspectives; namely biological, socio-cultural and social cognitive theories, tending to dominate the arguments (Ruble et al. 2006). Those adhering to the first perspective argue that men and women are biologically different, (Baron-Cohen, 2004; Browne, 2013) and therefore any emerging gender differences are the result of innate and/or biological differences. In contrast, socialisation theories argue that gender differences arise when children adopt and enact attitudes, and behaviours learned through interactions with society. For example, differential treatment by parents, and family members, can either positively, or negatively reinforce specific attitudes and behaviours learned through interactions with society. For example, differential treatment by parents, and family members, can either positively, or negatively reinforce specific attitudes (Halpern & Perry-Jenkins, 2016), whilst frequently experienced images from a range of media (Bakir & Palan, 2010; Otnes & Tuncay-Zayer, 2012) can either reinforce or deter particular behaviours (Bandura, 1977; Ruble et al., 2006). However, authors such as Kohlberg (1966) have argued that ‘... our approach to the problems of sexual development starts directly with neither biology nor culture, but with cognition’ (p.82). Hence, this perspective argues against children simply absorbing, and learning what they experience, and then subsequently model their own gender stereotypes based on these experiences. The cognitive approach argues that the formation of gender stereotypes is influenced and shaped by significant levels of reason and logic (Bussey and Bandura, 1999). In this paper, we offer additional support for this idea by exploring the extent to which very young children (age 3 and 4 years old) make use of significant levels of logic and reasoning, in order to fulfil the task of assigning a gender to a musical instrument.
Martin et al., (1995) argue that two forms of association, namely vertical and horizontal, take place when young children are faced with the need to identify the particular gender associated with a cultural product, for example, a cultural object, activity or value. Young children quickly learn which toy, dress code, or behaviour link to a particular gender. Therefore, vertical associations occur first, when children draw on their direct knowledge to link a particular sex with a particular product of their cultural context. Horizontal associations occur when a child makes a gender association through inference. That is, a child may have no direct knowledge or experience of a gender associated with a particular object, but may be able to infer such an association by identifying and linking the gender attributes of a known object, with similar attributes to the unknown object. For example, a boy may have no direct gender associations for a toy hovercraft, but may infer a masculine association based on their direct knowledge of either their own preferences for toys, or having seen boys playing with cars and boats. The current research both adopts and adapts this vertical / horizontal model as a way of carrying out an initial analysis of the data.

However, following on from this idea, this current study will also draw on a further theory relating to concepts of power. Foucault described ‘power’ as being any entity that caused an individual to act in one way rather than another (Rabinow,1991). Taking this idea further, MacNaughton, (2009) identified and describing four conditions (or ‘powers’) that ‘impact on how children construct meaning and therefore how children learn’ (p.56). This approach argues that as each of these four conditions are experienced, the meaning that a child constructs, carries with it an understanding of the ‘power’ that accompanies the experience. That is, all artefactual elements arising within a particular culture do not exist within a neutral space but automatically carry with them an associated power. In other words, a child who observes a behaviour, or experiences a specific attitude, will learn not only the behaviour, but also the ‘power’ associated with reproducing that behaviour.

MacNaughton argued that four main ways of power existed, namely:

The power of pre-existing cultural imagery and cultural meaning. Within this condition are cultural and traditional meanings that are experienced through imagery and practices.

The power of expectations. Within this condition are the social and political structures that express examples of what is and what is not expected; how individuals should think and act.

The power of positions. Within this condition are those contexts in which children have experienced the ‘power’ gained through adopting a particular stance for example, adopting a behaviour favoured by a teacher.

The power of the marketplace. Within this condition sit meanings extracted from advertising and commodities.

MacNaughton takes this one step further by arguing that very young children not only construct their own ideas about what a specific artefact, value or behaviour means but they also learn to manipulate these meanings according to the particular context in which they are situated. As part of the analysis of our data, these four ways of power will be adopted as a template to help in
understanding more clearly why young children perhaps make specific gendered nominations and to explore further the extent to which these are manipulated.

**Gender and Musical Instruments**

The link between particular musical instruments and a specific gender is well documented. Over forty years ago, Abeles and Porter, (1978) found clear associations between gender and some musical instruments. However, more than 30 years later, Abeles, (2009) study of the instruments actually being played by males and females suggested the intervening decades had produce limited changes, causing the author to again argue that “... gender associations with musical instruments have far-reaching consequences beyond the music classroom and may restrict the vocational aspirations of both female and male musicians”(p.138). More recently, Wrape et al. (2016) also “… found evidence that instrument gender stereotypes remain entrenched and pose a persisting problem facing music educators” (p.40). Certainly, regardless of the numerous variations in methodology utilised by a range previous studies, the flute, the violin and the clarinet consistently appear to be associated with females, whilst brass, guitar and percussion have tended to be more associated with males. Whilst historically, a number of musical instruments have been deemed to be either appropriate, or inappropriate for males and females; due to a specific form of symbolism or inappropriate association (Leppert, 1993), the precise reasoning behind why some musical instruments should be currently associated with a particular gender is not well understood.

A number of previous studies have suggested a range of factors that may or may not contribute to such associations for example, Fortney, Boyle and DeCarbo (1993) argued that siblings, family and instrument timbre made significant contributions towards any gender association an individual may have with a particular instrument, whereas Sinsel, Dixon and Blades-Zeller (1997) suggested that associations developed as a result of an individual’s psychosocial identity, and O’Neill & Boulton, (1996) argued that ‘like and dislike of the sound’, and ‘too difficult for male/female to play’ were the main reasons for assigning an instrument to a particular gender. What is relatively clear is that many of the historical patterns of gender associations with musical instruments are currently still in evidence with pupils most frequently opting to learn what are considered to be the most gender appropriate instruments at all stages of education. In studies of kindergarten aged children, (Reference withheld, xxxx) found strong stereotypical attitudes amongst 3 and 4 year old children not only towards individual musical instruments, but also towards a number of musical styles, whilst work by McKeage (2004) found that amongst college students, the gender associated with certain instruments tended to be the main reason females chose not to participate in jazz ensembles. Reasons cited included the idea that jazz ensembles tended to be male dominated communities, the lack of female role models and a range of institutional obstacles that “narrowed participation options” (p.343). Hence, musical style and the communities of instrumentalists they either require or attract, also appear to carry a range of gender labels that may limit the choices and experiences that individuals see as being available to them.

A number of studies have suggested that females are more willing to play gender inconsistent musical instruments than males (Cramer, Million & Perreault, 2002), and Harrison & O’Neill, (2000)
found females to be more tolerant of musicians playing gender inconsistent instruments than males, and therefore in this sense, females could be said to be less restricted by gender associations. Additional support for the idea that males may face more limitations as a result of gendered attitudes towards musical instruments has also been put forward by Conway, (2000); a finding that also chimes with previous work with gendered toys (Frey & Ruble, 1992), which similarly found that females were far more willing to play with gender inconsistent and gender neutral toys than boys.

Studies that have explored effective ways to challenge, or change gendered attitudes towards particular musical instruments have however, produced mixed results. Pickering and Repacholi (2001), found the gender preferences of young children could be influenced through experiencing video images of instruments played by ‘gender inappropriate musicians’ e.g. a male playing a flute and a female playing a drum. Walker (2004) argued that as students tend to identify more strongly with individuals of their own sex, the positive role models of both male and female musicians playing both gender consistent / inconsistent instruments should be employed at every opportunity. However, Killian and Satrom (2014) found that pictures of gender inappropriate musicians produced no significant impact on pupils choices of the instruments they themselves wished to learn. Harrison and O’Neill (2000 & 2003) explored the extent to which the gender preferences for a particular instrument amongst 9-11 year old children, could be modified by exposure to male and female musicians playing what were considered to be gender typical / atypical instruments. Findings suggested that both males and females most strongly identified with same sex role models playing gender typical instruments, and gender atypical instruments tended only to be selected when played by a same-gender musician. However, as the authors pointed out; this could mean that preferences for atypical gender instruments could be modified by exposure to same-sex musicians. However, what is equally possible is the fact that preferences for gender typical instruments could be affected in a negative way by exposure to role models in which gender typical instruments are played by opposite gender musicians.

Hence, a range of previous studies have clearly highlighted the link between individual musical instruments and a particular gender. What gender is actually associated with which particular instrument, and precisely how this choice or preference is operationalised are issues that have been discussed elsewhere (Abeles et al., 2014; Wych, 2012). However, the precise reasons why a specific gender is assigned to, or associated with an individual instrument is less well reported; and this is especially the case amongst very young children. Previous research studies exploring the rationale for stating preferences, or deciding on the gender of an instrument have tended to contain limited information. For example, Fortney, Boyle and DeCarbo (1993), suggested that social factors, including teachers, parents, and friends impacted on the preferences of middle school children, in terms of the instruments they opted to learn, whilst O’Neill and Boulton, (1996), suggested ‘physical’ (size/weight) aspects of the instrument, previous experience of seeing the instrument played and the volume, pitch and timbre of an instrument as possible reasons. However, we have found very limited work that has explored, in detail, not only the possible reasons behind gender associations with instruments, but the cognitive process through which such decisions are made.
Purpose

This research presents the results of a study carried out in nursery schools in England in that the responses of very young children towards a number of ‘gendered’ musical instruments were obtained. Our main aim was to better understand the process by which very young children made those responses rather than replicating previous work in which children simply made decisions about the gender they felt was associated with a particular musical instrument. That is, given that many previous studies have explored ‘what’ children nominate as being associated with a particular gender, in this study, our aim was to better understand the narratives and processes that ultimately lead to that nomination. We wish to further argue here, that an increased understanding of how young children make their gendered decisions, can also increase our understanding of what factors impact on their formation and how they can be more effectively challenged.

As such, our research questions were:

i. How do 3-4 years old children decide on the gender associated with a musical instrument?

ii. What factors influence their decision?

Methodology

Our previous work (Reference withheld, xxxx) with nursery aged children utilised a bespoke task designed specifically to remove the need for children to give any form of verbal responses. In order to complete the task, children were required to use only a ‘pointing finger’ to indicate the gender of the cartoon character they perceived to be responsible for the music they were hearing. However, one noticeable side effect of this research was to observe the significant number of children who clearly wished to talk, sometimes quite extensively, about the decision they were making. As a consequence, on this occasion the same task was used as in the previous quantitative study with the one exception that ample opportunity and encouragement was given for children to discuss the reasoning behind the nominations they made.

Ethical Considerations

Ethical approval was applied for prior to data being collected, and granted by the university in which the author(s) were based and the research was carried out in accordance with the ethical code of conduct as set down by the British Psychological Society. Additional consents were gained from the Headteacher and Nursery Teachers within each school. All parents / primary care givers received an information sheet detailing their right to confidentiality, anonymity, and right to withdraw at any point without reason. Although consent for children to take part was gained through ‘opt-in’ consent forms returned by parents, the final consent to take part was given by each individual child. No child took part unless they confirmed they were willing to do so. Additionally, we adhered throughout to the idea of continuous informed consent; in that each child’s willingness to take part was verified with appropriate comments and questions throughout the data collecting activity. All collected data was anonymised by removing all personal and identifying information removed and stored on password protected media.
Participants, Procedure and data collection

The research population consisted of 83 children aged between 38 months and 54 months old who attended one of five nursery schools in South East England, UK. The population consisted of 47 females and 36 males. Individual children were played a series of short musical excerpts accompanied by a cartoon image of a male and a female child. In total 7 short extracts were played featuring 7 musical instruments all of which had demonstrated an association with a particular gender in a range of previous studies. 2 visits to each nursery took place prior to the research being carried out in order to ensure that the researchers were known to the participants. Initially participants were told, “We are all going to listen to some music together and we want you to help us remember who is playing this instrument? – who plays this music?’ When required, short prompts were given, for example, ‘Who plays this music – is it this one or this one – who do you think?’ All responses were treated as being correct and followed by the sentence, “Can you tell me why?” Where children felt sufficiently comfortable in talking about their decision, they were allowed to do so for as long as they wished. At appropriate points they were asked, “Shall we do the next one?” In instances where children did not feel inclined to give verbal responses or gave neutral responses such as ‘because it is’, they were simply invited to point to their nominated character. Whatever response was received, all participants were then encouraged and praised before the researcher moved to the next instrument. Nominations for each instrument were recorded on a summative sheet (male / female or both) whilst qualitative data was collected via audio recording.

Throughout the research, the concept of continued, informed consent was adopted in that children were continually asked if they were happy to continue. All children took part in the research on an individual basis within a quiet area of the nursery. Children had sight of a familiar adult at all times. The activity took approximately ten / fifteen minutes per child with the actual musical examples lasting for a total of 3 minutes. Recordings were of a high digital quality and reproduced in stereo through two good quality speakers.

Musical excerpts

The 7 musical excerpts were all of 10 seconds duration and accompanied a cartoon image of a boy and a girl. The 7 chosen instruments were those which previous research generally agreed had an association with a particular gender (Abeles et al., 1978; Harrison et al., 2000, 2003). Therefore, flute, violin and clarinet were selected to represent female associated instruments and guitar, drums and trumpet were selected to represent male associated instruments, and piano was chosen as a gender neutral instrument. Participants heard the 7 excerpts of music, in random order. All musical samples consisted of a short excerpt featuring the main instrument playing in a prominent way. No excerpt featured the beginning or the ending of a musical piece and every effort was made to avoid large differences in tempo.

Results and Data analysis

All recorded data was initially fully transcribed onto summative sheets and subsequently three levels of analysis were systematically carried out. Our first analysis involved simple frequency counts of the gender nominations made for each instrument. As our declared aim was not to gain additional support for the findings from previous studies, no further statistical analysis was required. Our second level of analysis involved colour coding comments and assigning them to one of our two conceptual frameworks namely vertical / horizontal decisions; where responses were made
according to the similarity of the instrument to another object or sound (Martin et al., 1995), and the ways of power as set down by MacNaughton, (2009). That is, our two conceptual frameworks not only enabled us to categorise the comments but also by using each conceptual framework as a lens, we could attempt an interpretation from a given perspective. Categorisation of responses was first carried out independently by both researchers. Initially, agreement was achieved in all but 7 cases. Further discussion took place to ensure a good level of reliability.

Our results revealed that overall, children in this population tended to continue to assign the same gender to each instrument as had been demonstrated in previous work (Abeles, 2009, Delzell & Leppla, 1992). 68 out of 83 responses assigned the violin to the female character and 76 of the 83 responses again attributed the flute music to the female character. In contrast, the drum was assigned to the male character in 52 of the 83 nominations whilst the guitar was nominated 64 times as being male. The trumpet received 59 of the nominations for the male character. The clarinet and piano gained less significant nominations with the clarinet being assigned to the male in 41 of the nominations and the piano was assigned to the female in 44 of the nominations. Thus, overall, the nominations tended to follow well established patterns achieved by previous studies. However, our intention on this occasion was not to confirm the pattern of gender nominations towards individual instruments but to generate qualitative data which may enable us to better understand more of the process which children follow in order to decide on their nomination.

As expected, not all participants were willing to respond with any significant level of detail. For example, 7 children preferred to simply point out their nomination without commentary. Similarly, 11 children tended to provide limited information or gave restricted responses such as, ‘I know it is’ or ‘because they do’. However, the remaining 74 participants provided a wide range of responses which gave a relatively clear indication as to the reasoning behind their nomination. Responses to flute belonging to the female for example, included explanations such as:

“...because it sounds like a bird and I think she looks after it”

and

“... because I have seen the lady playing it for us”

However, a significant number of responses were highly complex and initially, the context and process were difficult to follow.

For example,

“... you blow that...I saw lady playing it and her face was like this (puffs out cheeks)... she was not pretty and I didn’t want to play that...”

As a consequence, it was felt necessary to use a more detailed form of analysis, possibly through which a more considered understanding of the process leading to each nomination could be achieved.

**Analysis One**

Looking at the data overall, we found evidence suggesting that in a number of cases, children made their nominations through some form of vertical association (Martin et al.,1995). That is, we
obtained good evidence of children basing their judgement on having directly experienced the particular instrument, or musical sound with a particular gender.

Examples of this type of decision making included comments such as:

“Boy ... because Freddy’s brother plays that... I saw him and he let me do as well”

or

“... it’s the girl - they play that in Mrs ... class and if you look through the window you can hear them.”

In other words, nominations to a particular gender were made through some direct experience of the sound they were hearing in the excerpt.

On other occasions, there appeared to be evidence of horizontal associations. For example, in the case of one child with no vertical evidence of either a male or a female playing the drums, an association was made with one attribute that the child regarded as being common to both the drumming used in the excerpt and with a behaviour he associated with boys, namely ‘loud volume’. This appeared to be subsequently linked horizontally to the issue of strength.

“Boy” (why the boy?) “Because it’s loud - and you need to be strong to play loud – like that – so girls can’t do that”

However, a number of responses were far more complex with no clear vertical or horizontal link. An example of this was the following response made to the excerpt of a trumpet playing:

“Oh that’s boys...their music...because it’s loud and they make all the noise in the playground... girls are quiet ... that’s why the ladies like us... and we stay with them”

As in the previous example, as a result of possibly having no vertical experience of the trumpet, the horizontal association was made between boys being noisy and the volume of the instrument.

What these examples appear to show is that the use of a vertical and horizontal experience can go some way towards providing an understanding of the way in which very young children produce a gender nomination when required to so by an adult. In this example, the music and the sample share a common attribute namely ‘noise’. Boys are seen as noisy in the playground and therefore all things noisy are seen as being related to boys (Hellman, 2010). However, although this form of analysis can go some way towards understanding the decision making process, there is far more meaningful evidence available which we need to explore further in order to obtain a more complete understanding. Two further details are provided namely that the girls are preferred by the ladies on the playground and the girls stay with the ladies.
Therefore, in the second analysis, we will explore what further information can be gleaned by applying a second level of analysis to the qualitative data we obtained.

**Analysis Two**

Analysis two builds on the notion of ‘ways of power’ (MacNaughton, 2009). Looking at many of the responses we obtained, there was some evidence that the cognitive process that children used to decide on their nominations as to which gender the instrument was associated with, could be seen as being influenced and shaped by one, or more ways of power.

**Example One**

As an example, we look again at the comment made by Ellie (3 years 2 months) on hearing the excerpt for drumming:

“Oh that’s boys... their music... because it’s loud and they make all the noise in the playground... girls are quiet ... that’s why the ladies like us... and we stay with them”

Further conversation with Ellie revealed how both the teacher and the adult supervisors on the playground reinforced the idea of the ‘noisy boys’; a consequence of which was that girls frequently gained favour with the adult assistants on the playground and frequently experienced the benefit of additional time in the playground as the boys were sent back into school first.

Thus, an analysis of this response could be argued to be as follows:

“Oh that’s boys... their music... because it’s loud”

Initially, there appears to be a Vertical – Horizontal association being made here. That is, we assume that an initial ‘vertical (direct)’ search of Ellie’s experiences reveals nothing. Therefore, having no direct experience of a gender associated with a drum, Ellie identifies a further attribute of the sound she is experiencing, namely the volume of the instrument. She therefore associates the volume of noise horizontally, with the boys behaviour on the playground. This could also represent an aesthetic judgement in that volume is subsequently transformed into ‘noise’.

“... they make all the noise in the playground... girls are quiet ... that’s why the ladies like us... and we stay with them”

Here the vertical / horizontal association of volume, is seemingly progressed and a knowledge of two possible powers could be impacting on how the gender decision is made. First, there is a possible association with the power of expectation. The comment ‘girls are quiet’, could relate to an understanding that behaving as ‘expected’ by people in, and with power, leads to obtaining benefit. However, the fact that Ellie then goes on to explain they are liked because of their quiet behaviour and this results in them staying with the ‘ladies’; suggest that perhaps they are more involved in positioning themselves along with the adults in the playground; that may represent one of those
contexts in which children have experienced the ‘power’ gained through adopting a behaviour favoured by an adult, or other person in power. There is an awareness that such positioning leads to a benefit, namely in this case, additional play. Of further interest is the possible assumption made by Ellie, that by telling this story about her behaviour, and knowing that this positions her with one set of adults, for which she gains benefit, she might also be carrying out a form of ‘secondary positioning’ that is through this story she positions herself in a beneficial way with the researcher; who as an adult in the nursery, she regards as having additional ‘power’.

Example Two

Looking next at the comment given by Sophie (3 years 8 months):

“... you blow that ... I saw lady playing it and her face was like this (puffs out cheeks) ... she was not pretty and I didn’t want to play that ...”

This comment was interesting in that it related to a particular event in the musical life of the school, in that a group of musicians from the local music service had given a free concert attended by the children in the nursery. The trumpet player was indeed a young lady and thus the comment about the puffed out cheeks relates to her playing technique. An analysis of this comment could therefore be as follows:

“... you blow that...I saw lady playing it...”

The nomination appears for the trumpet to be initially female, given that the vertical (direct) experience is of a female playing the instrument. As such, it could be expected that no horizontal association was needed. However, Sophie goes on to make a different, further horizontal association as a result of the instrument being played by blowing, causing a distortion to the face and the way the player looks.

“... and her face was like this (puffs out cheeks) ... she was not pretty...”

This subsequent comment appears to suggest both the power of expectation and the power of cultural imagery, that is culturally, girls are expected to be pretty and take care with their appearance. It also suggests that perhaps there is a hierarchy of powers which are evaluated according to the maximum benefit to be gained.

“... and I didn’t want to play that ...”

As a result of such deliberations, the final nomination defies the vertical (direct) experience of having actually seen a female playing the trumpet, and opted for the trumpet being a male instrument, with the power of cultural imagery (i.e. that a girl must be pretty) and expectation (i.e. behaving as expecting acquires benefit), taking preference over what had been directly witnessed.
Example Three: Mark (3 years 9 months):

Mark: “That’s the boy – the book had one in it (catalogue) and the boy had it (the guitar) and I told my mum I wanted it for my birthday”

Researcher: “What did your mum say?”

Mark: “She said I be on Top of the Pops”

To start, Mark nominated the guitar as a male instrument. The initial decision is made according to a vertical (direct) experience of having seen a male pictured with the instrument in a catalogue. However, taking into account the subsequent comments, there is also some possible evidence of at least two possible ‘powers’ in action. First, it could be argued that the power of the marketplace is present, in that the child wishes to also obtain the guitar as portrayed in the catalogue as a birthday present. However, it could also be an indication that he was aware of the power of expectation, because by aligning himself with what the marketplace illustrated to be a male activity, he acted according to the wishes of his mother and subsequently gained a reward; namely by being famous on the television.

However, of even more significance is the fact that by the age of 3 years and 9 months, Mark may already be demonstrating gender constancy (Kohlberg, 1966) in that he already appears to understand that come his future birthday, he will still be a male’. Mark appears to be aware of the fact that his gender will remain constant in the future; a concept that Kohlberg argued should not be present in this age group. If this belief is now evidence of permanent gender constancy, or just a ‘in the moment’ way to link his present wish and his future birthday, cannot be confirmed but this is an issue that would be worthy of future research.

Discussion

The purpose of the current study was not to continue to find support for the way in which very young children perceive individual musical instruments to be associated with a particular gender, our argument here is that very young children between the ages of 3 and 4 years old were able, as Kohlberg (1966) argued, to apply significant levels of cognitive activity in order to decide on the gender of a musical instrument. And therefore, we argue that the use of musical sounds can be an effective way of producing significant levels of data relating to how small children generate an argument for assigning a particular gender for a musical sound.

Overall, the data revealed an impressive level of listening skills that appear to be present in young children, with many of them demonstrating an ability to identify the sound of the individual instruments and in addition, some were able to provide evidence of identifying a particular style of music and associate it with a particular place or person, for example music played in a coffee shop or favoured by another member of the family. Two further impressive issues related to the fact that first, many children were able to generate logical arguments in support of their nominations, even in cases where they appeared to have no direct experience, or prior knowledge of the instrument they heard being played. Secondly, was the speed with which they also were able to generate their argument. In most instances, responses were given almost immediately and frequently before the short excerpt had finished playing.
With respect to the excerpts played by instruments with which the participants had no previous or vertical experience, the data suggested that children are able to discern a range of elements within the sample and to make further, logical connections with an extensive choice of experiences in order to complete the task they were being asked to do. Many of these connections initially appeared to be unrelated, however further prompting or question inevitably produced a clear and logical ‘horizontal’ process. In addition, we found evidence of participants carrying out quite complex debates within themselves in which direct experiences were subsequently over-ridden by additional knowledge of the power associated with adopting a particular position.

Therefore, in response to our two main research question, the data suggested that 3 – 4 years old children were able to decide on the gender associated with a musical instrument, regardless of the level of familiarity, or knowledge they had of the instrument or the musical style. In those instances where children were able to incorporate a personal, concrete knowledge of the instrument being played, then they did so. Yet in instances where children did not have any concrete knowledge of the actual instrument, they were still able to identify some artefactual element within the sample that enabled them to complete the task in a logical way.

Similarly, the responses provided further support for the ‘categories of power’ as proposed by MacNaughton (2009). Sophie was clearly trying to construct an identity as a girl, and perhaps even as a musician. Yet her main experience consisted of a largely negative experience which, depending on a range of issues beyond her control, may turn out to be the only time she experiences a female playing a brass instrument. The key issue here is that the experience in question was specifically presented to challenge the stereotypical attitude that brass instruments are for males. Therefore, in response to our first research question, we argue that young children do appear to be able to make responses to a question that requires them to make a link between a specific musical excerpt and a male or female. They appear to do so in an often complex, but logical way which is subject to a number of ways of power. Responses may be arrived at through very brief concrete and direct experiences, but at times they also rely on secondary, but associated experiences which are used in a logical way to navigate towards a required response. What the data does not show, is whether or not the decisions made by the participating children were in fact actual stereotypical attitudes, or whether these were momentary responses generated purely to fulfil the immediate task; which was to provide an answer to a question set by the ‘adult in the nursery’. Put simply, children make gender links by drawing on a wide range of direct and indirect, but related experiences.

Our second research question asked what impacted on the decisions which children made. Again, the data suggested that children were able to draw on both their past experiences and to think both vertically and horizontally in order to fulfil the task the adult in the room was setting them. We argue that evidence does exist for the impact of different powers. What we did not find was the power of merchandising, or media dominating their choices; as is often suspected (Golden & Jacoby, 2018, Kolbe, & Langefeld, 1993). In fact, we had a sense that children used all four ways of power equally as they felt appropriate, with each power being regarded as equal in importance. In terms of the power of culture; we found evidence of impact from a number of different ‘cultural contexts’. For example, the cultural context of the family (home background), the culture of the school and the nursery. For example, Ellie, may have been adopting some form of secondary positioning, or manipulation according to context. Her story of the quiet girls in the playground may on one level be simply reporting how she and her friends conform to expected behaviours by being quiet and
positioning themselves with the adults in the playground. However, this choice of story could also be an indication of what MacNaughton described as ‘manipulating the meaning according to the context’ in that having gained benefit with the adults in the playground, similar benefits may well be available from the researcher.

Similarly, the power of expectation appeared frequently in responses from both male and female participants; as did the expectation that this would change, or perhaps it is more accurate to say that it could be manipulated, according to the context. For example, Mark was aware that the gendered behaviours expected, acknowledged and rewarded at home, were different from those in the nursery and in the playground. As a result, there was a corresponding change in the ‘strength’ inherent in the power of positioning.

Finally, we suggest that the idea of gender constancy might well be present in some way at a far younger age than perhaps has been previously regarded. Participants were seemingly able on numerous occasions to make judgements about themselves and their gender that carried with it the implication that this would not change in the future. That having been said, we accept that the children in our sample were also seemingly aware of the fact that the ‘strength’ of each individual power could, and did change according to context. It is therefore possible that similar questions set in another content, by a different person (e.g. at home by a parent) could in fact yield very different responses.

Limitations of the study

We accept the limitations inherent within this study. Certainly, we acknowledge that we have attributed intentions and meanings to comments made by very young children that may or not be there. The task was carried out within the ‘powerful space’ of a nursery by an adult; a context that would certainly have exerted significant impact. We accept that children gave a required response to an adult that may or may not be the basis of a strongly held belief. Essentially, the participants were forced to make a binary choice between the male and the female, and then to justify their decision. The design of the task did not allow for any other response, such as ‘both’ or ‘neither’, for example. Hence, we accept that perhaps the participants were forced to make a connection between an instrument and a gender, that did not exist.

Similarly, the use of musical excerpts as a stimuli can introduce a plethora of uncontrollable influences that may impact on the way an individual responds to music (Berlyne, 1971). Certainly, many previous studies have highlighted the large range of factors which impact on how individuals process and respond to music, including musical style, (reference withheld, 2013), gender and personality of the participant (Koelsch et al., 2003a; Koelsch et al., 2003b; Webster & Weir, 2005); tempo, mood and social setting (Bakagiannis &Tarrant, 2006; McPherson, 2015). We also acknowledge the social and culture influences which may influence gendered attitudes and accept that the geographical, social and cultural nature of our research sample represented a relatively homogenous population.

However, we again argue that our intention was not to produce an empirical study and subsequently claim some generalisable results, and neither was it our aim simply to re-test the nominated genders that very young children appear to associate with musical instruments. From our perspective, the actual gender which children decided was associated with each instrument was of secondary
importance; what was of interest is the process by which children arrived at their decision and what in addition, we could learn from a detailed analysis of that response.

Conclusions

Overall, our findings suggested that even the youngest participants in our study were able to present us with a series of complex, and logical responses to a task. They were actively able to draw on a wide range of experiences and knowledge that enabled them to begin to construct some meaning about themselves and their gender, and the roles they play in the various contexts in which they are required to live. All our participants displayed the ability to reason and to evaluate, and in some cases reject the simple logic that seeing an individual of a particular gender performing a particular task carries influence. Schools, and nurseries in particular have to be fully aware of the level of thought that very young children appear to bring to the experiences they gain on a daily basis. Challenging the development of inappropriate gender stereotypes requires far more than providing challenging experiences, but also requires the monitoring of how such experiences are experienced, processed and accommodated.

From this perspective, we again concur with Meland and Kaltvedt (2017). However, it is not our intention to in any way cast doubt on the sincerity and intentions of early years practitioners, nor to negate the hard work which takes place on a daily basis in numerous early years settings. What we do suggest is that both the development of inappropriate stereotypes, and the way of challenging them is a highly complex process and one important way of increasing our understanding, is for more detailed research work to be carried out into the precise way in which children respond to, and process information around gender. An equally valuable way forward is for kindergarten and early years practitioners to take note of the comment made by Meland and Kaltvedt (ibid.) and to:

‘...continually analyse their own actions so that stereotypical gender roles can be counteracted in order to break ongoing gender role practices and thereby facilitate change within education and kindergarten practice’ (p.101)

References


