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Implicit Beliefs of Disability and Elite Sport: The Para-Athlete Experience

The purpose of this study was to explore the implicit beliefs and underlying motivational processes of para-athletes, and how these beliefs influenced perceptions of sport performance, as well as challenge the dominant social stereotypes that misconstrue disability as inability. Utilising a qualitative research design, unstructured interviews were conducted with five elite para-athletes from various sporting backgrounds and analysed from a psychosocial perspective according to the procedures of theoretical thematic analysis. To invoke greater emotional tone and depth, participant-created visual data was used to supplement the initial thematic analysis. Three themes associated with the implicit beliefs of para-athletes were identified and termed, (1) on being disabled, (2) achieving is believing, and (3) accepting differences or being indifferent**.** These themes illustrated how participants had to accept the 'fixed' nature of their disability first, before they could work towards overcoming its limitations. Through continuously adapting and adjusting their strategies to address setbacks as they occurred, the process of accepting limitations and overcoming setbacks led to increased feelings of self-efficacy and competence, which consequently led to the dominant incremental beliefs participants held.

Keywords: implicit beliefs, para-athletes, thematic analysis, visual methods, Singapore

The study of self-theories represents a simple yet elegant concept in the pursuit to understand the nature of human abilities (Roberts 2012). Within this domain, multiple factors emphasise the complexity of individual beliefs as they differ across and within areas such as personality, relationships, health, education, and sport (Dweck and Molden 2005, Yeager and Dweck 2012). In sport, where athletes are repeatedly exposed to failures and setbacks during the many years invested to develop their abilities and skills (Spray 2016), the theory of implicit beliefs can be used as an analytical lens to understand how achievement-related events are interpreted and responded to (Dweck and Leggett 1988). Here, an important distinction needs to be made between 'ability'

and ‘skill’. ‘Ability’ has been defined as a relatively stable trait that is difficult to improve with practice, whereas ‘skill’ is modifiable within the parameters of an individual’s ability (Schmidt and Lee 2011). While most research in implicit beliefs has focused on the beliefs of youth at school or university, recent studies have extended the field into elite sport to diversify the populations investigated (e.g., Jowett and Spray 2013, Slater et al. 2012). Similarly, the para-sport context presents another unique area worthy of investigation, especially as para-athletes experience different challenges from able-bodied athletes in their pursuit of superior sport performance (Martin 2010).

Implicit Beliefs

Drawing on the work by Dweck and Leggett (1988) which originally explored the ability beliefs of children and intelligence in the educational domain (i.e., Dweck and Bempechat 1983), implicit beliefs have become more widely used in physical education and specific sport contexts (e.g., Jowett and Spray 2013, Slater et al. 2012, Stenling et al. 2014). According to Dweck and Leggett (1988), implicit beliefs are the unconscious conceptions about the nature of human abilities with reference to their stability and malleability. These are known as entity beliefs and incremental beliefs respectively, or simply as fixed (entity) and growth (incremental) mindsets (Dweck 2006). Individuals who hold an incremental belief (i.e., incremental theorists) view their abilities as malleable and open to influence, whereas individuals who endorse an entity belief (i.e., entity theorists) operate under the assumption that abilities are stable (Dweck 1999).

In sport, individuals holding an incremental view perceive sport abilities as dynamic constructs which can be honed through practice and hard work, whereas those that subscribe to an entity view believe that abilities are innate and therefore fixed even with practice (Slater et al. 2012). While research has tended to examine the implications

of each belief separately, both beliefs can coexist in an individual (Dweck et al. 1995, Spray et al. 2006). However, one belief may be more dominant than the other, especially when the individual faces adversity (Dweck et al. 1995, Spray et al. 2006). Leith and colleagues (2014) also found that individuals can selectively shift their implicit beliefs and adopt one type over the other to achieve desired outcomes or protect themselves from negative circumstances based on specific situational factors, thus highlighting the potential fluidity of self-theories.

Ability and Motivation

Beliefs of athletic ability have been found to predict motivation and its associated psychological constructs such as enjoyment, goal orientation, skill acquisition, and self-efficacy (Spray et al. 2006, Stenling et al. 2014, Wang and Biddle 2001). Furthermore, a review of the literature found that major theories such as achievement goal theory, attribution theory, self-efficacy, and intrinsic motivation are influenced by implicit beliefs of ability (Li and Lee 2004). If motivation is defined as the driving force which gives athletes the determination to succeed when challenged (McLean and Mallett 2012), implicit beliefs can then be considered as the instrument which dictates the direction of that force (i.e., types of motivation; for a review, see Deci and Ryan 2008). In the 'real-world', this means that the beliefs about the malleability or fixedness of human attributes influence the way one experiences and responds to reality (Dweck et al. 1995), reflecting the difference between athletes who are highly motivated and successful, and those who are not. In support, research has found that incremental beliefs are associated with adaptive, mastery-oriented responses to adversity and related constructs such as enjoyment and intrinsic motivation (Wang and Biddle 2001). Conversely, entity beliefs are associated with negative, performance-

oriented responses where challenges are perceived as a threat to their competence and self-worth (Wang and Biddle 2003).

It would seem therefore that individuals inclined towards incremental beliefs promote the pursuit of self-referent goals which tend to be more self-determined in nature, whereas those predisposed towards entity beliefs tend to pursue external-referent goals that may be less self-determined and extrinsic in nature (Vella et al. 2016). This consistent association of incremental beliefs with adaptive motivational constructs (e.g., Chian and Wang 2008, Jowett and Spray 2013) coupled with the overt focus on performance and physical ability in sport highlights how incremental theories are essential in overcoming potential setbacks and limiting adverse motivational consequences (Spray 2016). However, as the literature regarding the underlying motivational processes that influence the benefits associated with adaptive implicit beliefs is lacking (Vella et al. 2016), it would be presumptuous to disregard the role of entity beliefs in the development of sporting performance (Jowett and Spray 2013).

Indeed, while it has been acknowledged that how one interprets and acts upon one's beliefs varies according to the situational context, there is a paucity of research pertaining to behavioural outcomes like effort, persistence, and willingness to seek out challenges (Dweck 1999), in addition to social and environmental antecedents (Vella et al. 2016). While recent qualitative studies (i.e., Jowett and Spray 2013, Slater et al. 2012) have addressed this and found that sporting performance consists of a multitude of attributes that may be perceived as fixed (e.g., persistence) or malleable (e.g., technical skills) in elite and high performance settings (i.e., athletics and golf, respectively), Jowett and Spray (2013) acknowledged that a sample of elite athletes may skew the findings in favour of incremental beliefs, as most athletes would not have reached this level if they felt they could not improve. This would unfortunately

reinforce the negative association of entity beliefs and motivational consequences seen in the literature (Biddle et al. 2003).

Para-sport in Context

According to the Singapore Disability Sports Council (SDSC; 2017), of the 186 organisations that support the disabled in Singapore, only 11 support some form of sports. Unfortunately, these organisations tend to cater to a specific disability only, meaning that only a small number of individuals among the estimated four percent of the six million population may have an opportunity to engage in sport. Although SDSC is the only organisation in Singapore which caters to a broad range of disability groups since its founding in 1973, five new centres of expertise in disability sports have recently been built to facilitate sport participation and development for disabled individuals (Channel NewsAsia 2015). Despite these recent developments, support and public interest for para-sport and disability is still sorely lacking. This was evident in how the recent accomplishments of local able-bodied athletes at the Rio Olympics 2016 garnered significant media attention, while those of para-athletes at the Rio Paralympics were much less publicised (names, sports and associated media articles will not be referenced for ethical reasons). Furthermore, in Singapore's meritocratic, outcome-driven environment (Wong et al. 2015), individuals whose abilities or skills are not up to par (be they disabled, less academically inclined or simply not winning medals) are neglected in favour of those who already possess those abilities or skills (de Cruz and Duncombe 2016, Koh-Tan 2011).

To add to this marginalisation, it is important to acknowledge that while the literature on disability sport, particularly critical disability studies, has largely endorsed the social relational model (which suggests that disabled people may experience varying forms of indirect or direct social oppression which restrict activities and damage well-

being; Thomas 2014) over the medical model (which defines disability as a lack of ability due to its reliance on bio-physical assumptions of 'normality'; Goodley 2016) to inform our understanding of disability sport, the majority of work done on elite sport has been limited to white, Euro-American contexts (e.g., Braye et al. 2013, Peers 2009, Purdue and Howe 2012, Smith et al. 2016). As such, the dominant philosophies, practices, and principles identified in past disability sport research may fail to appreciate the nuances of para-sport in Singapore. Under the analytical lens of implicit beliefs theory and an appreciation for critical disability studies, this research remains grounded in 'what is' as experienced by Singaporean para-athletes, rather than 'what ought to be', at the risk of running counter to dominant research trends. Instead of trying to fit this study into the extant literature by objectifying and interpreting psychological processes independent of their socio-cultural context (McGannon and Smith 2015, Terry 2009), readers are urged to keep an open mind to the different experiences of para-athletes in other contexts beyond the dominant cultural power and privilege of mainstream (white, Euro-American) worldviews (Blodgett et al. 2015).

Purpose of Study

This study will examine the implicit beliefs of para-athletes and challenge the dominant social stereotypes of 'normal' physical ability that misconstrue disability as inability (Le Clair 2011). Furthermore, it has been found that para-athletes may have particularly complex motivations, as seen in their pursuit of normality through engaging in sport (Wheeler et al. 1996), and therefore may illuminate aspects of implicit beliefs that require more attention (e.g., behavioural outcomes and social antecedents; Dweck 1999, Vella et al. 2016). Thus, the objectives of this research was to, (1) explore the perceptions of sport performance and their implications on the motivation of para-athletes, (2) understand what environmental factors may foster or inhibit adaptive

motivational constructs with reference to incremental or entity beliefs, and (3) understand how conceptions of disability influence ability beliefs.

Methods

Philosophical Assumptions

A qualitative approach was chosen as it provided an analytical framework that can generate deep insights into participants' lives (Smith and Sparkes 2009). Informed by ontological relativism and epistemological constructionism, there is no separation between the knower and the known as the subjective interpretations of the researcher facilitates a dynamic co-construction of meaning with participants envisioning multiple interpretations of experiences relative to the implicit beliefs of para-athletes (Chamberlain 2011, Smith and Caddick 2012). Thus, a qualitative approach can potentially uncover unexplored areas of knowledge which may have been overlooked if a more traditional quantitative design had been used (Eklund et al. 2011).

To gain an insight into peoples' lives, there must be an honest personal reflection by the researcher on how one's values, beliefs and experiences influenced the decision-making processes (Poczwardowski et al. 2004). As a former Singaporean national athlete and volunteer trainer for the Handcycling Association of Singapore, the researcher had an intimate familiarity with Singapore's elite sport scene. This insider epistemology coupled with the researcher's belief that any athlete should be treated as a unique individual positively informed the methodology as it helped build rapport with participants and empathise with their concerns (Dwyer and Buckle 2009). Consistent with these beliefs, a construalist, participant-led approach (counselling model) was used throughout the research process. However, given the researcher's limited experience in academia, theoretical models and empirical evidence were used as a guide to inform interpretations and proposed implications.

Participants

Utilising a maximum variation and criterion-based purposive sampling strategy, five elite para-athletes (two men and three women) between the ages of 19 to 57 years from handcycling, sailing, shooting, swimming and powerlifting were recruited through the researcher's contacts based on the inclusion criteria of (a) are registered with SDSC; (b) have represented Singapore in at least one major international competition; and (c) are aged 18 years or over. In addition to these varied sports, participants had different impairments (amputation, paraplegia, spina bifida, and partial visual impairment). The combination of these two sampling strategies illustrated multiple perspectives of para-sport linked together by the phenomenon under investigation, while the latter sampling strategy ensured that participants shared specific inclusion criteria attributes. The participants had between 1 to 4 years of experience as national athletes and had been involved in their respective sports for 2 to 6 years. The major achievements within this sample included three gold medals and two bronze medals for major international events (Asian Para Games 2014, Asean Para Games 2015), and a representative for the Rio Paralympics 2016.

Data Collection

Interview Protocol

A semi-structured interview approach was used to empower participants as the experiential experts and allow them to raise unforeseen experiences and concerns as their story unfolds (Sparkes and Smith 2014). To refine the interview schedule, the questions went through two iterations where the researcher and supervisors critically discussed each question to ensure that what was asked was informed by the theoretical framework of implicit beliefs, while still supporting a free-flowing and interactive dialogue between the researcher and participants.

In the final iteration, the interview guide was divided into four sections which explored (1) the participants' perceptions of sport and sporting history; (2) their environmental experiences as para-athletes; (3) their future plans for sport as national para-athletes; and (4) feedback and concluding thoughts. Broad probes (e.g., meaning, importance, concerns) and subsequent questions (e.g., Can you elaborate on some of the events you have competed in?) were used only if participants needed more guidance to describe their experiences with sufficient depth. By avoiding any overt references to implicit beliefs and motivation, the conversations were able to flow and provide data that, whilst of course co-constructed, was inductively driven (Caddick et al. 2015).

Visual Methods

In tandem with semi-structured interviews, participant-created auto-photography was used to illustrate participants' experiences as it could potentially go beyond the written and spoken word (Phoenix 2010, Sparkes and Smith 2014). Adopting the role of a guide, the researcher worked with each participant after the interview to identify how the themes discussed (e.g., independence) could be used to produce personally meaningful photographs as an alternative method to communicate their thoughts, feelings and emotions. This participant-led approach was intended to help build rapport by shifting the power dynamics from researcher to participant (Mills and Hoeber 2013).

Participants were then each asked to provide five photographs, taken and sent to the researcher via smartphones, and briefly elaborate on why they were meaningful in an informal telephone discussion to assist with the researcher's interpretations as a follow-up interview was not possible due to time constraints. Questions asked during this informal discussion included (1) Why did you choose these images? (2) What do you think this means to another person? (3) How does this image represent your sporting experiences discussed during the interview? (4) How would you describe this

image in one sentence? Although participants were only told to provide photographs, the on-going informal dialogue with the researcher post-interview led to the use of drawings which, although unanticipated, were a welcome addition to this study as it further emphasised the involvement, creativity and ownership of the participants. Through evoking the visual sense of readers, the emotions, environments and subtle interactions of these para-athletes can be communicated more effectively to further our understanding of implicit beliefs and motivation in para-sport (Fitzgerald 2012, Griffin 2010, Phoenix 2010).

Procedure

Following ethical clearance from Loughborough University and approval by SDSC, potential participants were contacted through the researcher's contacts via telephone to arrange a suitable date and time to conduct the interview. Interviews were conducted at a venue of the participants' choosing so that they could choose the environment they felt most comfortable in and allow them to describe their experiences without reservation (Crust et al. 2011). All participants were given an information sheet, briefed about the nature of the study and assured of confidentiality and anonymity. Prior to the interview, participants were reminded of the research objectives, that there were no right or wrong answers, and were informed of their right to withdraw at any time without penalty or prejudice. Interviews lasted between 41 and 63 minutes, were recorded digitally and transcribed verbatim with participants' consent. After each interview, an informal discussion regarding the use of participant-created auto-photography took place where participants were advised to avoid taking pictures that would allow facial recognition. This was to preserve their anonymity and prevent deductive conclusions as to their identity being drawn, given the small number of Singaporean elite para-athletes.

Data Analysis and Representation

Thematic Analysis

Theoretical thematic analysis was utilised to provide a more detailed analysis specific to the researcher's theoretical interests, rather than an overall description of the data (Braun and Clarke 2006). While this method is more explicitly researcher driven, the lack of research on Singaporean para-athletes coupled with the researcher's epistemological commitments ensured that the findings were treated as a joint construction of meaning with participants (Braun and Clarke 2006, Smith and Caddick 2012). This was consistent with the purpose of this study to work within the theoretical framework of implicit beliefs while maintaining a constructionist-participatory approach.

In accordance with the six-phase procedure outlined by Braun and Clarke (2006), the analysis began with the manual transcription of the interviews where the researcher read the transcript multiple times to develop an intimate familiarity with the participants' narratives. Following this, initial codes that provided an interpretation of participants' underlying ideas and assumptions (latent approach) were generated. These codes were grouped based on their similarity to form recurring themes which reflected the patterned response and meaning within the data. However, as the emphasis of this study was on the importance and significance of what was said, rather than its prevalence (Braun and Clarke 2006), these recurring themes were reviewed, refined, and combined into categories and sub-categories to provide a coherent story of implicit beliefs in para-sport and its meaning among participants. Refined themes and sub-themes were named to represent their thematic content. Representative extracts were then identified from participants' transcripts to illustrate the subjective meaning these

themes had for each participant and their importance in the broader context of this study.

Participant-created Visual Data

While thematic analysis was the dominant analytical procedure used, visual methods were used to complement the use of quotes and extracts. Therefore, rather than just utilising a traditional one-off interview, visual data in the form of photographs and drawings were used to communicate the various social phenomena in para-sport (Mills and Hoeber 2012, Phoenix 2010). Riessman's (2008) description of visual narrative analysis (i.e., Griffin 2010, Phoenix 2010) and the analytical procedures described by Mills and Hoeber (2012) formed the foundation that guided the researcher's interpretations and selection of visual data. To achieve a balance between verbal and visual knowledge, the researcher focused on what, why and how the images had been constructed with reference to the context of production and its intended reception (Riessman 2008). In recognition of the synergistic relationship between images and text, the themes from the thematic analysis and informal discussions with participants were used to elucidate the meanings of different images (Harrison 2004, Phoenix 2010).

Drawing on the above research exemplars, six images from a total of twenty-three were selected by the researcher. These images were used as evidence rather than as a disparate analytical procedure (Knowles and Sweetman 2004) to aid the understanding of implicit beliefs among para-athletes in Singapore (Clarke et al. 2017). Upon completion of the thematic analysis, the researcher considered how the images and participants' captions illustrated the various thematic categories in Table 1 (see Appendix A). Next, the meaning of these images in relation to the broader overall 'story' was considered. Once images had been linked to the refined themes, the final selection involved drawing on the literature on implicit beliefs and para-sport, coupled

with the desired meaning the participants and researcher wanted to communicate. Within this step, the researcher was attentive to finding a balance between what the literature and results said, and how best to represent the participants' feelings and experiences as Singaporean para-athletes.

Quality Considerations

By delving into the process of observing and generating data through embracing the uncertainty and complexity of emotions, societies, and cultures, the researcher was able to represent multiple perspectives as they emerge throughout the research process, rather than attempt complete impartiality through methodological rigor (Hagger and Chatzisarantis 2011, Smith and Caddick 2012). To refine this research process and assist in the development of plausible interpretations, as part of an ongoing list of criterion, the researcher drew on the proposed criteria from the literature, namely that of transparency (did the researcher clearly illustrate the research process), trustworthiness (is the study credible, dependable, transferable, and confirmable), and reflexivity (has the researcher openly reflected on the impact of his or her assumptions, intentions, and actions on the research; Smith and Caddick 2012, Sparkes 2015, Tracy 2010, Yardly 2000). These strategies were used flexibly to facilitate good qualitative practice as they were influenced by the specific purposes of this study and by what seemed important at the time, rather than a predetermined set of rules (Smith and McGannon 2017, Sparkes and Smith 2009).

Results and Discussion

The analysis identified three refined themes: (1) on being disabled; (2) achieving is believing; and (3) accepting differences or being indifferent (see Appendix A Table 1 for thematic categories). Each of these themes, sub-themes, and associated images

highlight the beliefs participants held in relation to their subjective experiences as para-athletes. Each is explored in detail below.

On Being Disabled

Emphasising the significance of the impact of social aspects of disability, rather than simply acknowledging the biological differences (Martin 2010), participants explained how sport allowed them to be identified as athletes first. It was these intrinsic rewards which helped maintain their effort and persistence to persevere through setbacks, while negotiating the conflict between personal and external beliefs.

Reinventing Oneself

Consistent with the complex motivations associated with para-athletes (Martin 2010), sport was a means to achieve normality and be recognised by society as an athlete, other than 'only' being a disabled person as told by participant (P) 2;

> *I want people to recognise me, I want people to support me, I want people to believe in what I do, yeah I want the public to see me as a true sportsperson. Those are the things that will really carry me forward.* (P2)

While P2 alluded to the dominant discourses that construct disability as 'others' when compared to the narrowly defined ableist norm (van Amsterdam et al. 2015), this extract reinforces the notion that sport has the potential to empower disabled individuals as active agents who are capable of resisting the prevailing stereotypes surrounding disability and therefore challenge these ableist discourses (McMaugh 2011). Interestingly, although this pursuit of 'normality' through sport was interpreted as an innate goal due to its self-referent qualities to deemphasise the differences of being disabled, and therefore initially associated with incremental beliefs of physical fitness and motor skills (Dweck and Leggett 1988), the need for external validation and

acceptance by society to perceive para-athletes as true sportspeople suggests that external-referent goals (e.g., gaining public recognition) which hitherto tend to be associated with entity beliefs (Vella et al. 2016), may also coexist with incremental beliefs.

This unique perspective of identity development has been highlighted in past research (Shapiro and Martin 2010) where, although para-athletes may privately see themselves as athletes, they perceived that society did not. This may support the fluidity of self-theories as discussed by Leith and colleagues (2014), as participants endorsed greater incremental views of ability relative to the entity views of society to achieve their desired goal of being seen as athletes and protect themselves from the distorted 'normative' expectations of society (Shildrick 2009). These incremental beliefs extended beyond sport to daily life as depicted in Figure 1 (see Appendix B for image), which shows a modified steering wheel that allowed P4 to feel independent, capable, and normal. Similarly, Martin (2010) recognised that the development of skills and abilities, both physical and psychological, can extend to non-sport situations (e.g., driving). Though Dweck (1999) explained that beliefs of ability have a stronger influence in sport settings where ability based tasks are frequent, the prospect of carrying out daily tasks may in itself require high beliefs of ability in the context of disability.

Rewards of Sport

The impact of regaining independence was particularly meaningful to P4, who had previously been able to walk, but due to the complications associated with her illness, lost function in her legs. However, through a sport like sailing where she was constantly exposed to the unpredictable elements at sea during training and

competitions, P4 realised that she need not always be dependent on others as explained in the following extract;

> *After I lost all the function it kind of became very depressing and I thought that I have to be dependent on a lot of people, especially the close one's around me, so sailing actually changed this perspective of mind. It actually strengthened me, not just physically but mentally as well.* (P4)

The prospect of being dependent on others because of the 'failure' of disability is reminiscent of entity beliefs, where P4 was initially convinced that her condition made her incompetent (Dweck 1999). Although at this point it was unclear how she overcame the negative motivational consequences associated with entity beliefs (i.e., amotivation), through sailing, the fixed mindset she had succumbed to evolved into a growth mindset through her physical and psychological development.

Possibly, in overcoming the restrictions of her entity beliefs, P4 was able to cope with the challenges of her disability which she had previously believed she was incapable of doing. In this sense, the social and environmental experiences from sailing may be the catalyst which shifted the dominant ability beliefs of P4 from that of entity to incremental beliefs. Notably, although participants struggled with their disability and its challenges, when provided with the right opportunities to take control of their situation and act, they became empowered and believed that personal improvement (i.e., health and well-being) was achievable as stated by P1;

> *It doesn't mean that with a disability it's the end of the road. Of course with my condition it may progressively get worse, it may stay the same, I don't know…with that it also kind of fuels me to want to just keep in*

> *better shape to hopefully not prevent, but maybe delay the onset of progression.* (P1)

Dealing with Adversity

The transition from entity to incremental beliefs may highlight the influential nature of sport in promoting more adaptive motivational constructs such as improved self-efficacy and competence by overcoming the challenges of disability through sport. In fact, in the context of para-sport, the physical and psychological impact from past accomplishments may have been magnified because of the dominant ableist discourses associated with entity beliefs (Le Clair 2011). Although Dweck (1999) proposed that incremental theorists are more likely to be able to overcome setbacks and persist following adversity, in the case of participants, it seemed that the process of overcoming setbacks led to the adoption of incremental beliefs. Highlighting the importance of context-specificity when investigating implicit beliefs, the 'fixed' nature of disability (i.e., permanent bio-physical limitations) would have been associated with entity theorists in accordance with the literature (e.g., Jowett and Spray 2013).

However, for participants faced with permanent setbacks due to their disability, the acceptance of their condition facilitated the process of adopting incremental over entity beliefs as illustrated by P2 and Figure 2 (see Appendix C for image);

> *When I woke up from my amputation, from the sedation, it was the best feeling I had because I was so relieved, like a huge burden had been lifted off my body because I carried that leg along for so many years.* (P2)

These extracts capture a common belief among all participants who maintain a persevering attitude in the face of adversity. As participants eventually demonstrated positive and adaptive (affective, cognitive, and behavioural) responses through

accepting their 'fixed' conditions, which may in fact progressively deteriorate depending on the nature of the disability, this behavioural outcome was similar to able-bodied elite athletes who did not dwell on setbacks but instead persisted in their pursuit of sporting excellence (Jowett and Spray 2013). However, due to the 'fixedness' of disability, the temporary perception of setbacks, as perceived by incremental theorists, may not be applicable to para-athletes. Indeed, it was through accepting fixed setbacks, which may have been perceived as entity beliefs, that allowed participants to persist and progress in sport.

Supporting the Ability of Disability

In the face of the aforementioned challenges, the ways in which participants dealt with their disability was tied to the influence of key social agents in their lives such as parents and coaches. This was consistent with the findings of Slater and colleagues (2012), which indicated how the socialisation of self-theories influenced the beliefs of golfers' ability in terms of its malleability or fixedness. For example, the quote from P3 explained how her mother was prominent in nurturing more incremental beliefs through encouraging independent behaviour;

> *I sort of accepted that I won't be able to go very far in sports but then after a while my mindset changed…There is always frustration where you think that if I had my vision I could do this, if I had my vision I could do that…there are just some things in life that we will not be able to attain…I would get a bit upset sometimes and [my mother] would just be like, just move on from it. You know it sounds so unsympathetic sometimes and you just, it feels like she just doesn't care but then if you think about it really she is really teaching me an important life value.* (P3)

In contrast, the negative perception of disability led P4's mother to align more with entity beliefs regarding the nature of her daughter's ability to ever enjoy a 'normal' life again;

> *I'm trying to let [my mother] know that even though I am in the wheelchair I may not be able to do certain things I have done before but certainly I can live even better so I am taking sailing actually to prove her wrong… trying to let know that being on a wheelchair is not the end of the world.* (P4)

The significance of these differing perspectives is interesting given that although both led towards adopting incremental beliefs among para-athletes, in the case of P3, her mother challenged her dominant implicit beliefs (entity), whereas in P4, she herself felt compelled to change her mother's fixed perception of her disability.

A recent study by Gunderson and colleagues (2013) found that variations in parental praise were significant predictors of their child's implicit beliefs. Although the aforementioned study was on children between the ages of 1 to 8, the findings from the present study support the influence parents' beliefs have on their children, even at a later stage in their lives (i.e., 19 and 25 year olds). Furthermore, the action by which these beliefs influenced P3 and P4 appeared to manifest in the type of parenting style employed and may be a potential line of inquiry in relation to its impact on implicit beliefs of ability. Specifically, as P4 was actively involved in sport prior to her disability, she may have possessed innate incremental beliefs from her past sporting experiences which enabled her to overcome her mother's entity beliefs.

Achieving is Believing

Reinforcing the concept that ability is acquirable (Jowett and Spray 2013), in addition to the adaptive motivational constructs associated with incremental beliefs

(Vella et al. 2016), the experiences of participants illustrate how perceived limitations of disability could be overcome. The extent of how participants achieved their sporting accomplishments can be seen in the way they adapted to cope with various challenges to develop specific sporting skills. It was through this journey that they realised the potential within themselves which led to future achievements.

Working Within Limitations

In the case of P1, she initially possessed an incremental belief with regards to handcycling, as illustrated in Figure 3 (see Appendix D for image) and encapsulated in her caption. Unfortunately, her frequent seizures caused recurring dislocations in one arm that prevented her from competing in handcycling. However, her desire to continue competing in sport led her to explore other avenues;

> *I went through a list of sports of what I can do and what I can't do. It seemed that air pistol shooting was the only thing I can do with one arm, hence the decision.* (P1)

P1's understanding of her bio-physical limitations exemplifies the interplay between how general motor ability (i.e., inability to abduct or externally rotate shoulder) and specific sport-related skills (i.e., synchronic arm rotation on handcycle) mediate the endorsement of entity beliefs, specifically to handcycling. As P1 explained that shooting was the only alternative she could do with one arm, the result of accepting her entity beliefs in handcycling drove her to consider other sporting opportunities where the lack of mobility in her shoulder would no longer be an issue.

In this sense, the importance of distinguishing between general abilities and specific skills was apparent as although P1 adopted the entity view that her ability in handcycling was fixed, it coexisted with her incremental belief that she had the ability

and skills for another sport (Vella et al. 2014). This would have been overlooked if this study had only focused on general sporting ability (e.g., Harwood et al. 2008).

The belief that disabled individuals could still challenge themselves and perform in sport was a recurring theme among all participants. As portrayed in Figure 3, the fragmented vertebrae represent P1's acceptance of her condition, and the intertwined chain-rings of the handcycle, her belief that sport can still be part of her life. While it was possible that the psychological attributes (e.g., mental toughness and resilience; Jowett and Spray 2013, Slater et al. 2012) P1 and other participants developed from dealing with the challenges of their disability and through previous sport experiences helped maintain incremental beliefs in the face of adversity, the acceptance of physical limitations may have allowed them to regulate their beliefs in favour of incremental terms (Leith et al. 2014).

Realisation of Ability

As improvements in specific sport-related skills began to actualise through training and hard work, participants' belief that their disability need not hinder their sporting development was reinforced by the success of their past accomplishments. This initial success resulted in more adaptive motivational constructs such as enjoyment and self-efficacy which supplemented participants' incremental beliefs of sporting ability and consequently fuelled their persistence in sport, as identified in past research on elite athletes (Jowett and Spray 2013) and exemplified by P1;

> *I think within sport is my perseverance and determination because I don't think my disability is a hindrance really. I'm actually way past that already. I think it helps because I see things from a different perspective like if one way doesn't work let's try another.* (P1)

Furthermore, as participants had conceptualised their sporting accomplishments as a consequence of their determination to succeed when faced with adversity, reinforcing the crucial role motivation plays in the way athletes think, feel and act in relation to sport (McLean and Mallett 2012), the intrinsic drive participants possessed helped them persevere through the arduous training regimes and competitions over long periods of time (Keegan et al. 2014). This in turn challenged the ableist discourses of disability when they embraced a more incremental theorist perspective as their competence in sport grew. Rather than dwell on failure, they adjusted their strategies to address setbacks as they occurred (Dweck et al. 1995). These adaptive outcomes of intrinsic motivation and perceived competence have been found to facilitate high levels of incremental beliefs (Vella et al. 2016) and may even lead to a similar mindset beyond the sport context as shared by P3;

> *There are some people who are somewhat more built but if I can work hard, I can do better, and the same will go for studies. Maybe someone can be naturally smarter than me but if I am working hard then there is no reason why I can't do well either*. (P3)

This link between perceived competence in sport and the potential development in academia highlights the transferability of an incremental mindset, and how success in sport may help foster beliefs that effort and persistence can lead to improvements in intellectual ability as well, given that the athletes' need for competence is fulfilled (Deci and Ryan 2008).

Celebrating the Journey

Linking the perceptions of competence to the research by Lepper and colleagues (2008), it was noted that the stability of the motivational power of competence was dependent on the level of difficulty of the task at hand. From a theoretical perspective,

this would mean that participants' perceived competence would be precariously unstable due to the high levels of perceived task difficulty of para-athletes when compared to their able-bodied counterparts (Martin 2010, van Amsterdam et al. 2015). However, as it was established that participants developed high incremental beliefs through accepting their limitations and adapting their strategies to cope with setbacks that eventually led to success, they exercised more effort following failure which progressively and steadily established their feelings of competence and through their belief of the malleability of ability, higher levels of perceived autonomy in sport (Vella et al. 2016). This subsequently led to greater self-determined motivation for sport as explained by P4;

> *While I feel you can cry, you can whine, you can complain, you can be stuck there but at the end of the day you must remember to pick yourself up and go on because the world is still spinning, no matter what you still have to journey on… I think determination…the kind of never say die spirit.* (P4)

On further analysis, the process by which participants arrived at this positive outcome can be traced back to how participants defined success and failure (Dweck 1999). As the criterion of success was self-referent in nature and therefore more controllable, since its outcome was placed in the hands of participants (Vella et al. 2016), participants could adopt a more task-oriented approach to reach their goal of becoming better para-athletes.

During this journey, failure was accepted as part of the developmental process and therefore did not result in feelings of incompetence but instead promoted greater persistence and engagement with challenging tasks (Chian and Wang 2008), as expressed by P2;

> *When you never give up there is always a fighting chance that you will end up somewhere. It may not be where you want to be but it is somewhere better [than] if you don't do anything about it. Sport is the same thing. I've lost some competitions so we train for what you think we can do…and the next one.* (P2)

It was possible that participants held onto self-referent goals rather than submit themselves to the normative expectations of society that enforced a fixed view of ability in the context of disability as they held high levels of perceived competence, in tandem with perceived autonomy. According to Vella and colleagues (2016), this would promote the pursuit of self-referent goals which tend to be more self-determined in nature, as seen in participants' competitive spirit to continuously challenge themselves.

Accepting Differences or Being Indifferent

Expanding this research beyond the participants' beliefs, the circumstances in which they regulated their implicit beliefs of ability and resisted entity views in favour of incremental beliefs emphasised the importance of investigating the dominant discourses and cultural perceptions of disability and sport. As participants were often viewed against ableist notions of normality and thus cast as different, the contested nature of disability played a key role in participants' development of implicit beliefs and their response to these varying social and environmental factors.

The 'Disability' Label

Similar to how different contexts influence the way in which implicit beliefs are interpreted and acted upon (Vella et al. 2016), the meaning of disability also varies depending on context (Le Clair 2011). Based on the experiences of all participants, disability was unfortunately portrayed as being inferior and deficient, rather than a

neutral difference that simply requires some adaptation. The extract from P3 and Figure 4 (see Appendix E for image) highlights this 'fixed' judgement of disability well;

> *Although I am visually impaired, I can still be the same as you…just because I am holding a cane, just because someone is holding crutches, just because someone is on a wheelchair, it doesn't mean that we can't have a normal conversation, we can't be friends with you…I think we should just accept each other for our imperfections because the truth is nobody is perfect.* (P3)

Enforcing the notion that participants are active agents capable of resisting the prevailing stereotypes surrounding disability and challenging the dominant 'able-bodied gaze' which defined disabled individuals as 'the other' (Le Clair 2011, McMaugh 2011), the aforementioned extracts emphasise how imperative it is to understand that disability does not mean inability. As illustrated by P3, her cane may be an extension of her senses but it should not be perceived as a 'declaration' of her limitations.

In relation to implicit beliefs, the consequence of contesting these negative assumptions of disability may have resulted in a dualistic goal orientation that coexists within the incremental beliefs of participants. This was evident in the theme, 'on being disabled', where participants felt they needed to assert their rights to be accepted as 'normal' through challenging the entity beliefs of society (Le Clair 2011). In this sense, while it was clear that participants aligned with incremental theorists in the context of sport and adopted a more task-oriented approach consistent with literature (Dweck and Molden 2005), their desire to change attitudes and support inclusion led them to adopt an ego-oriented approach outside sport to demonstrate and gain validation of their acquired abilities. Thus, while it was possible that participants merely held simultaneous beliefs of ability (Dweck et al. 1995, Spray et al. 2006) which were regulated in relation

to the context they were in (Leith et al. 2014), there was no clear evidence they held dominant entity beliefs outside of sport, suggesting that ego or performance achievement goals may also be associated with incremental beliefs in this study, although this cannot be ascertained and warrants further investigation.

Natural Inclusion than Emphasising Differences

While the plan to build five new centres of expertise in disability sports in Singapore is a promising start for recreational activities (Channel NewsAsia 2015), as elite para-athletes, participants felt that more could be done to support their sporting development. According to P4;

> *It's not just the [able-bodied] sports that can perform, you can get something out of it [para-sport], it should be equal…in Singapore it is more of results over support but sometimes we really need the support over the results.* (P4)

Although the primary goal in elite sport is to win, this outcome focus may undermine the adaptive motivational constructs associated with the dominant incremental beliefs of participants (Mallett and Hanrahan 2004). Past research (e.g., Chian and Wang 2008, Deci and Ryan 2008) has shown how the emphasis on attaining external inducements negatively inhibits self-determined motivation and not only reduces adherence in sport but endorses ego or performance oriented goals (Dweck and Molden 2005), as participants are constantly required to demonstrate and validate their ability to gain or maintain organisational support. Unfortunately, this evidence has seemingly gone unnoticed by sport organisations in their pursuit to bring in more medals, where the concept of inclusivity has merely become a fashionable phrase without much substance (Fitzgerald 2012).

With such a performance-oriented environment, in addition to the ego-oriented approach participants adopted to challenge ableist norms, the dominant incremental beliefs participants held may become increasingly unstable due to the detrimental motivational consequences of such a performance-ego focused environment (Dweck and Molden 2005, Ommundsen 2001). Thus, if sport organisations and stakeholders in sport are to maintain the dominant incremental beliefs participants had developed through their demanding journey as depicted in this study, para-athletes need to be seen as a person with a disability, rather than a disabled person. Neither should they be used as tools to further organisational goals. As eloquently explained by Michalko (2009), 'Disability is not who we are, but something we have' (p. 69). This concept was encapsulated in Figure 5 and 6 (see Appendices F and G for images), where para-athletes were not distinguished as 'different', but instead integrated into the same environment (i.e., public gymnasium and cycling route) as able-bodied athletes where they did not need to prove their abilities to be accepted.

Conclusion

In embracing a qualitative approach to the research on self-theories, this study has illuminated the subtle differences and mechanisms which underpin the implicit beliefs of para-athletes. Throughout this study, it was apparent that participants' beliefs were primarily incremental in nature in relation to their physical and psychological abilities, as seen in their self-determined, persistent, and task-oriented responses towards their sporting development (Dweck and Molden 2005, Jowett and Spray 2013, Vella et al. 2016). Indeed, the findings highlight the process of how para-athletes had to accept the 'fixed' nature of their condition first, before they could work towards overcoming the limitations of their disability. Furthermore, this was no easy task as para-athletes had to continuously adapt and adjust their strategies to address setbacks as they occurred (e.g.,

sport injuries, feelings of despondency). In so doing, this process of accepting limitations and overcoming setbacks led to increased feelings of self-efficacy and competence, which consequently contributed to their sporting development as they believed they possessed the potential to improve (Jowett and Spray 2013, Vella et al. 2016), despite the dominant entity beliefs of society that misconstrue disability as inability (Le Clair 2011, van Amsterdam et al. 2015).

Interestingly, the contested nature between the incremental beliefs of para-athletes and society's 'fixed' perception of disability reinforced the notion that para-athletes experienced complex motivational processes (Wheeler et al. 1996), as it raised controversial aspects of implicit beliefs as evidenced by the dualistic goal orientations of para-athletes. While adopting task-oriented and self-referent goals, which was consistent with their dominant incremental beliefs (Dweck and Molden 2005, Vella et al. 2016), para-athletes concurrently assumed more ego-oriented goals outside the perimeters of sport to challenge the ableist notions of 'normality' that cast them as different (Martin 2010, van Amsterdam et al. 2015).

While this behaviour was consistent with the literature, where sport can empower disabled individuals to actively resist and challenge these ableist discourses (McMaugh 2011), and hold simultaneous beliefs (Slater et al. 2012), the findings revealed how ego- and task-oriented goals may coexist within the incremental beliefs of para-athletes, given that there was no clear evidence para-athletes endorsed dominant entity beliefs outside of sport. Thus, through investigating the nuanced motivational processes and sequences which led to the dominant incremental beliefs of para-athletes (Vella et al. 2016), it is possible that behaviours associated with entity beliefs (i.e., accepting fixed conditions which led to improved abilities) may not be detrimental in all

circumstances as implied by the past studies (e.g., Jowett and Spray 2013), and presents a fruitful line of inquiry to be explored further.

In presenting this unique perspective of para-athletes, it is important to acknowledge the limitations of this study. As the interview process was retrospective in nature, perceptions of particular events or experiences may have been skewed by memory and may change following future experiences (Smith and Caddick 2012). Furthermore, it is recognised that the full range of participants' experiences may not have been represented in this study as it did not seem ethical to provide the background of the unfortunate circumstances which brought about participants' disability. Lastly, it may have been insensitive to identify participants as disabled, rather than para-athletes, as they may have been offended by this label, as explained previously, and refused to participate.

Notwithstanding these limitations, this study adds to the limited literature on disability and sport (Smith and Perrier 2014), and to the researcher's knowledge, is the first study to explore the implicit beliefs of para-athletes. With this unique perspective, the findings highlight the importance of investigating the concept of community and specific environmental factors such as parenting styles and organisational support systems that have the potential to positively or negatively influence the fluid implicit beliefs of individuals, especially in the context of disability where the prospect of carrying out routine tasks may in itself require high beliefs of ability.

Disclosure Statement

No potential conflict of interest was reported by the authors.

References

Biddle, S.J., Wang, C.J., Chatzisarantis, N.L. and Spray, C.M., 2003. Motivation for physical activity in young people: Entity and incremental beliefs about athletic ability. *Journal of Sports Science, 21* (12), 973-989.

Blodgett, A.T., Schinke, R.J., McGannon, K.R. and Fisher, L.A., 2015. Cultural sport psychology research: conceptions, evolutions, and forecasts. *International Review of Sport and Exercise Psychology*, *8* (1), 24-43.

Braye, S., Dixon, K. and Gibbons, T., 2013. 'A mockery of equality': an exploratory investigation into disabled activists' views of the Paralympic Games. *Disability & Society*, *28* (7), 984-996.

Caddick, N., Smith, B. and Phoenix, C., 2015. Male combat veterans' narratives of PTSD, masculinity, and health. *Sociology of health & illness*, *37* (1), 97-111.

Chamberlain, K., 2011. Troubling methodology. *Health psychology review*, *5* (1), 48-54.

Channel NewsAsia, 2015. 5 disability sport centres to be set up across Singapore [online]. Available from: http://www.channelnewsasia.com/news/singapore/5disability sports/2312058.html [Accessed 29 August 2016].

Chian, L.K.Z. and Wang, C.K.J., 2008. Motivational profiles of junior college athletes: A cluster analysis. *Journal of Applied Sport Psychology*, *20* (2), 137-156.

Clarke, N.J., Caddick, N. and Frost, N., 2017. Pluralistic data analysis: theory and practice. In: B. Smith and A.C. Sparkes, eds. *Routledge Handbook of Qualitative Research in Sport and Exercise*. New York, NY: Routledge, 368-381.

Crust, L., Keegan, R., Piggott, D. and Swann, C., 2011. Walking the walk: A phenomenological study of long distance walking. *Journal of Applied Sport Psychology*, *23* (3), 243-262.

Deci, E.L. and Ryan, R.M., 2008. Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology*, *49* (1), 14-23.

de Cruz, N.P. and Duncombe, R., 2016. Qualitative inquiry of the Singapore environment and motivation of elite athletes: a self-determination perspective. *Asia Pacific Journal of Sport and Social Science*, *5* (3), 244-262.

Dweck, C.S., 2006. *Mindset: The New Psychology of Success*. New York: Ballantine.

Dweck, C.S., 1999. *Self-theories: Their Role in Motivation, Personality, and Development*. Hove: Psychology Press.

Dweck, C.S. and Bempechat, J., 1983. Children's theories of intelligence: Consequences for learning. In: S.G. Paris, G.M. Olson and H.W. Stevenson, eds. *Learning and Motivation in the Classroom*. Hillsdale, NJ: Lawrence Erlbaum Associates, 239-256.

Dweck, C.S., Chiu, C.Y. and Hong, Y.Y., 1995. Implicit theories and their role in judgments and reactions: A word from two perspectives. *Psychological inquiry*, *6* (4), 267-285.

Dweck, C.S. and Leggett, E.L., 1988. A social-cognitive approach to motivation and personality. *Psychological review*, *95* (2), 256.

Dweck, C.S. and Molden, D.C., 2005. Self-theories: Their impact on competence motivation and acquisition. In: A.J. Elliot and C.S. Dweck, eds. *Handbook of Competence and Motivation*. New York: The Guilford Press, 122-140.

Dwyer, S. and Buckle, J.L., 2009. The space between: on being an insider outsider in qualitative research. *International Journal of Qualitative Methods, 8* (1), 54-63.

Eklund, R.C., Jeffery, K.A., Dobersek, U. and Cho, S., 2011. Reflections on qualitative research in sport psychology. *Qualitative research in sport, exercise and health*, *3* (3), 285-290.

Fitzgerald, H., 2012. ‘Drawing’ on disabled students’ experiences of physical education and stakeholder responses. *Sport, Education and Society*, *17* (4), 443-462.

Goodley, D., 2016. *Disability Studies*. London: Sage.

Griffin, M., 2010. Setting the scene: Hailing women into a running identity. *Qualitative research in sport and exercise*, *2* (2), 153-174.

Gunderson, E.A., Gripshover, S.J., Romero, C., Dweck, C.S., Goldin -Meadow, S. and Levine, S.C., 2013. Parent praise to 1 to 3-year-olds predicts children's motivational frameworks 5 years later. *Child Development*, *84* (5), 1526-1541.

Hagger, M.S. and Chatzisarantis, N.L., 2011. Never the twain shall meet? Quantitative psychological researchers’ perspectives on qualitative research. *Qualitative research in sport, exercise and health*, *3* (3), 266-277.

Harrison, B., 2004. Photographic visions and narrative inquiry. In: M. Bamberg and M. Andrews, eds. *Considering Counter-narratives, Narrating, Resisting, Making Sense*. Philadelphia: John Benjamins, 113-136.

Harwood, C., Spray, C., and Keegan, R., 2008. Achievement goal theories in sport. In: T. Horn, eds. *Advances in Sport Psychology*. Champaign, IL: Human Kinetics, 157-185.

Jowett, N. and Spray, C.M., 2013. British Olympic hopefuls: The antecedents and consequences of implicit ability beliefs in elite track and field athletes. *Psychology of Sport and Exercise*, *14* (2), 145-153.

Keegan, R.J., Harwood, C.G., Spray, C.M. and Lavallee, D., 2014. A qualitative investigation of the motivational climate in elite sport. *Psychology of Sport and Exercise*, *15* (1), 97-107.

Knowles, C. and Sweetman, P., 2004. Introduction. In: C. Knowles and P. Sweetman, eds. *Picturing the Social Landscape: Visual Methods and the Sociological Imagination*. London: Routledge, 1-17.

Koh-Tan, A., 2011. The determinants of effectiveness of sporting associations in Singapore. *Managing Leisure*, *16* (3), 216-230.

Le Clair, J.M., 2011. Global organizational change in sport and the shifting meaning of disability. *Sport in Society, 14* (9), 1072-1093.

Leith, S.A., Ward, C.L., Giacomin, M., Landau, E.S., Ehrlinger, J. and Wilson, A.E., 2014. Changing theories of change: Strategic shifting in implicit theory endorsement. *Journal of personality and social psychology, 107* (4), 597-620.

Lepper, M.R., Master, A., and Quin Yow, W., 2008. Intrinsic motivation in education. In: S. Karabenick and T.C. Urdan, eds. *Advances in Motivation and Achievement*. Bingley: Emerald Group Publishing, 521-555.

Li, W. and Lee, A., 2004. A review of conceptions of ability and related motivational constructs in achievement motivation. *Quest, 56* (4), 439-461.

Martin, J.J., 2010. Athletes with physical disabilities. In: S. Hanrahan and M. Andersen, eds. *Routledge Handbook of Applied Sport Psychology*. New York: Routledge, 432-440.

McGannon, K.R. and Smith, B., 2015. Centralizing culture in cultural sport psychology research: The potential of narrative inquiry and discursive psychology. *Psychology of Sport & Exercise*, (17) 7, 79-87.

McLean, K.N. and Mallett, C.J., 2012. What motivates the motivators? An examination of sports coaches. *Physical Education & Sport Pedagogy, 17* (1), 21-35.

McMaugh, A., 2011. En/countering disablement in school life in Australia: Children talk about peer relations and living with illness and disability. *Disability & Society*, *26* (7), 853-866.

Michalko, R., 2009. The excessive appearance of disability. *International Journal of Qualitative Studies in Education*, *22* (1), 65-74.

Mills, C. and Hoeber, L., 2013. Using photo-elicitation to examine artefacts in a sport club: logistical considerations and strategies throughout the research process. *Qualitative research in sport, exercise and health*, *5* (1), 1-20.

Ommundsen, Y., 2001. Students' implicit theories of ability in physical education classes: The influence of motivational aspects of the learning environment. *Learning Environments Research*, *4* (2), 139-158.

Riessman, C.K., 2008. *Narrative Methods for the Human Sciences*. Thousand Oaks, CA: Sage.

Roberts, G.C., 2012. Motivation in sport and exercise from an achievement goal theory perspective: After 30 years, where are we? In: G.C. Roberts and D.C. Treasure, eds. *Advances in Motivation in Sport and Exercise* (pp. 5-58). Champaign, IL: Human Kinetics, 5-58.

Peers, D., 2009. (Dis) empowering Paralympic histories: absent athletes and disabling discourses. *Disability & Society*, *24* (5), 653-665.

Phoenix, C., 2010. Seeing the world of physical culture: the potential of visual methods for qualitative research in sport and exercise. *Qualitative research in sport and exercise*, *2* (2), 93-108.

Poczwardowski, A., Sherman, C.P. and Ravizza, K., 2004. Professional philosophy in the sport psychology service delivery: Building on theory and practice. *Sport Psychologist*, *18* (4), 445-463.

Purdue, D.E.J. and Howe, P.D., 2012. See the sport, not the disability: exploring the Paralympic paradox. *Qualitative Research in Sport, Exercise and Health*, *4* (2), 189-205.

Schmidt, R.A. and Lee, T.D., 2011. *Motor Control and Learning: A Behavioural Emphasis*. Champaign, IL: Human Kinetics.

Shapiro, D.R. and Martin, J.J., 2010. Athletic identity, affect, and peer relations in youth athletes with physical disabilities. *Disability and Health Journal*, *3* (2), 79-85.

Shildrick, M., 2009. *Dangerous Discourses of Disability Subjectivity and Sexuality*. Basingstoke: Palgrave MacMillan.

Singapore Disability Sports Council, 2017. About Us [online]. Available from: http://sdsc.org.sg/about-us/ [Accessed 20 July 2017].

Slater, M.J., Spray, C.M. and Smith, B.M., 2012. "You're only as good as your weakest link": Implicit theories of golf ability. *Psychology of Sport and Exercise*, *13* (3), 280-290.

Smith, B., Bundon, A. and Best, M., 2016. Disability sport and activist identities: A qualitative study of narratives of activism among elite athletes' with impairment. *Psychology of Sport and Exercise*, *26*, 139-148.

Smith, B. and Caddick, N., 2012. Qualitative methods in sport: a concise overview for guiding social scientific sport research. *Asia Pacific journal of sport and social science*, *1* (1), 60-73.

Smith, B. and McGannon, K.R., 2017. Developing rigor in qualitative research: problems and opportunities within sport and exercise psychology. *International Review of Sport and Exercise Psychology*, 1-21.

Smith, B. and Perrier, M.-J., 2014. Disability, sport and impaired bodies: A critical approach. In: R.J. Schinke and K.R. McGannon, eds. *The Psychology of Sub*

culture in Sport and Physical Activity: Critical Perspectives. London: Routledge, 95-106.

Smith, B. and Sparkes, A.C., 2009. Narrative inquiry in sport and exercise psychology: What can it mean, and why might we do it?. *Psychology of sport and exercise, 10* (1), 1-11.

Sparkes, A.C., 2015. Developing mixed methods research in sport and exercise psychology: Critical reflections on five points of controversy. *Psychology of Sport and Exercise, 16*, 49-59.

Sparkes, A.C. and Smith, B., 2014. *Qualitative Research Methods in Sport, Exercise and Health*. London: Routledge.

Sparkes, A.C. and Smith, B., 2009. Judging the quality of qualitative inquiry: Criteriology and relativism in action. *Psychology of sport and exercise, 10* (5), 491-497.

Spray, C.M., 2016. Competence motivation in the physical domain: The relevance of self-theories in sport and physical education. In: A.J. Elliot, C.S. Dweck and D. Yeager, eds. *Handbook of Competence and Motivation: Theory and Application*. New York: Guilford Press, 1-34.

Spray, C.M., Wang, C.J., Biddle, S.J., Chatzisarantis, N.L. and Warburton, V.E., 2006. An experimental test of self-theories of ability in youth sport. *Psychology of Sport and Exercise, 7* (3), 255-267.

Stenling, A., Hassmén, P. and Holmström, S., 2014. Implicit beliefs of ability, approach-avoidance goals and cognitive anxiety among team sport athletes. *European journal of sport science, 14* (7), 720-729.

Terry, P.C., 2009. Strategies for reflective cultural sport psychology practice. In: R. Schinke and S.J. Hanrahan, eds. *Cultural Sport Psychology*. Champaign, IL: Human Kinetics, 79-90.

Thomas, C., 2014. Disability and impairment. In: J. Swain, S. French, C. Barnes and C. Thomas, eds. *Disabling Barriers- Enabling Environments.* London: Sage, 9-16.

Tracy, S.J., 2010. Qualitative quality: Eight “big-tent” criteria for excellent qualitative research. *Qualitative inquiry*, *16* (10), 837-851.

van Amsterdam, N., Knoppers, A. and Jongmans, M., 2015. ‘It's actually very normal that I'm different’. How physically disabled youth discursively construct and position their body/self. *Sport, Education and Society*, *20* (2), 152-170.

Vella, S.A., Braithewaite, R.E., Gardner, L.A. and Spray, C.M., 2016. A systematic review and meta-analysis of implicit theory research in sport, physical activity, and physical education. *International Review of Sport and Exercise Psychology*, *9* (1), 191-214.

Vella, S.A., Cliff, D.P., Okely, A.D., Weintraub, D.L. and Robinson, T.N., 2014. Instructional strategies to promote incremental beliefs in youth sport. *Quest, 66* (4), 357-370.

Wang, C.J. and Biddle, S.J., 2003. Intrinsic motivation towards sports in Singaporean students: The role of sport ability beliefs. *Journal of Health Psychology*, *8* (5), 515-523.

Wang, C.J. and Biddle, S.J., 2001. Young people’s motivational profiles in physical activity: A cluster analysis. *Journal of Sport and Exercise Psychology, 23* (1), 1-22.

Wheeler, G.D., Malone, L.A., VanVlack, S., Nelson, E.R. and Steadward, R.D., 1996. Retirement from disability sport: A pilot study. *Adapted Physical Activity Quarterly, 13* (4), 382-399.

Wong, M.E., Poon, K.K., Kaur, S. and Ng, Z.J., 2015. Parental perspectives and challenges in inclusive education in Singapore. *Asia Pacific Journal of Education, 35* (1), 85-97.

Yardley, L., 2000. Dilemmas in qualitative health research. *Psychology and health, 15* (2), 215-228.

Yeager, D.S. and Dweck, C.S., 2012. Mindsets that promote resilience: When students believe that personal characteristics can be developed. *Educational Psychologist, 47* (4), 302-314.

Appendix A

Table 1. Inductively developed thematic categories of implicit beliefs and para-sport.

Refined Themes	Sub-themes	Codes	Example Extracts
On being disabled	Reinventing oneself	Pursuit of normality	I am maybe slightly different but other than that, not any different. (P4)
		Athlete identity	So I don't see myself as disabled in that sense. (P2)
		Achieve independence	I don't think my disability is a hindrance really. (P1)
		Need to prove abilities	Just be as good as everyone. (P3)
	Rewards of sport	Physical and mental benefits	It was fun, it was liberating, it was therapeutic. (P5)
		Sport helps deal with pain	I feel like I need some goals. (P4)
		Fun and enjoyment	I naturally fell in love with it. (P5)
	Dealing with adversity	Additional complications	It's been a bit more complicated, rather than just a simple dislocation. (P1)
		Battling negative thoughts	We live with pain almost every day. (P5)
		Lapses of frustration	Not knowing when you can get out of there. (P1)
		Accepting limitations	There are just come things in life that we will not be able to attain. (P3)
	Supporting the ability of disability	Parental influences	Family also plays a very important role. (P4)
		Social support	I try to get help when I can. (P2)
		Coach-athlete relationship	Coaches played a part for sure. (P2)
		Personal and external beliefs	If you don't have that acceptance within yourself, you won't be able to share that freely with people. (P1)
Achieving is believing	Working within limitations	Control the controllables	I just control what I can, just to do whatever I can. (P4)
		Realistic comparisons	What I can do within my means. (P3)
		Opportunities to perform	You must open your resources to everybody. (P2)
		Relish new challenges	It was always a bit challenging but I think it is very meaningful. (P5)
		Personal awareness	You have to sort yourself out first. (P2)
	Realisation of ability	Time investment	Definitely more training. (P1)
		Past achievements	I managed to achieve and now it's just like you want to keep achieving. (P3)
		Confidence for development	You will feel the change and feel that you can. (P5)
		Malleability of ability	I can really achieve this but only if I want to. (P3)
		Mental resilience to cope	It has to come from you and it has to come from within. (P1)
	Celebrating the journey	Importance of progression	We are just going one step at a time. (P2)
		Personal satisfaction	I really enjoy seeing improvement in myself. (P5)
		Confidence after setbacks	If one way doesn't work let's try another. (P1)
		Persistent mindset	If you actually persist in this you will probably be something great. (P1)
Accepting differences or being indifferent	The 'disability' label	Resilience to societal norms	In my handcycle I don't feel that I am disabled, I don't look disabled. (P5)
		Perception of society	Being on a wheelchair is not the end of the world. (P4)
		Disability as propaganda	Whereby the results are somehow confirmed and that is where all the people start to come. (P4)
	Natural inclusion than emphasising differences	Societal acceptance	We actually don't need sympathy, we need empathy. (P4)
		Need for equal opportunities	Are not looked upon as important as the able athletes. (P2)
		Overt focus on outcomes	An unsaid expectation that I should perform. (P2)
		Organisational issues	There is still no real structure. (P5)
		Communicating disability	Not truly understanding what a disabled person has to go through. (P2)

Appendix B

Figure 1. Just because I can’t walk, it does not mean I can’t drive. (P4)

Appendix C

Figure 2. The journey may be arduous but never give up. (P2)

Appendix D

Figure 3. Named ‘Spinability’ depicting potential to achieve despite the disability. (P1)

Appendix E

Figure 4. The cane may be part of me but it should not define me. (P3)

Appendix F

Figure 5. Always training, always working, just like any other athlete. (P2)

Appendix G

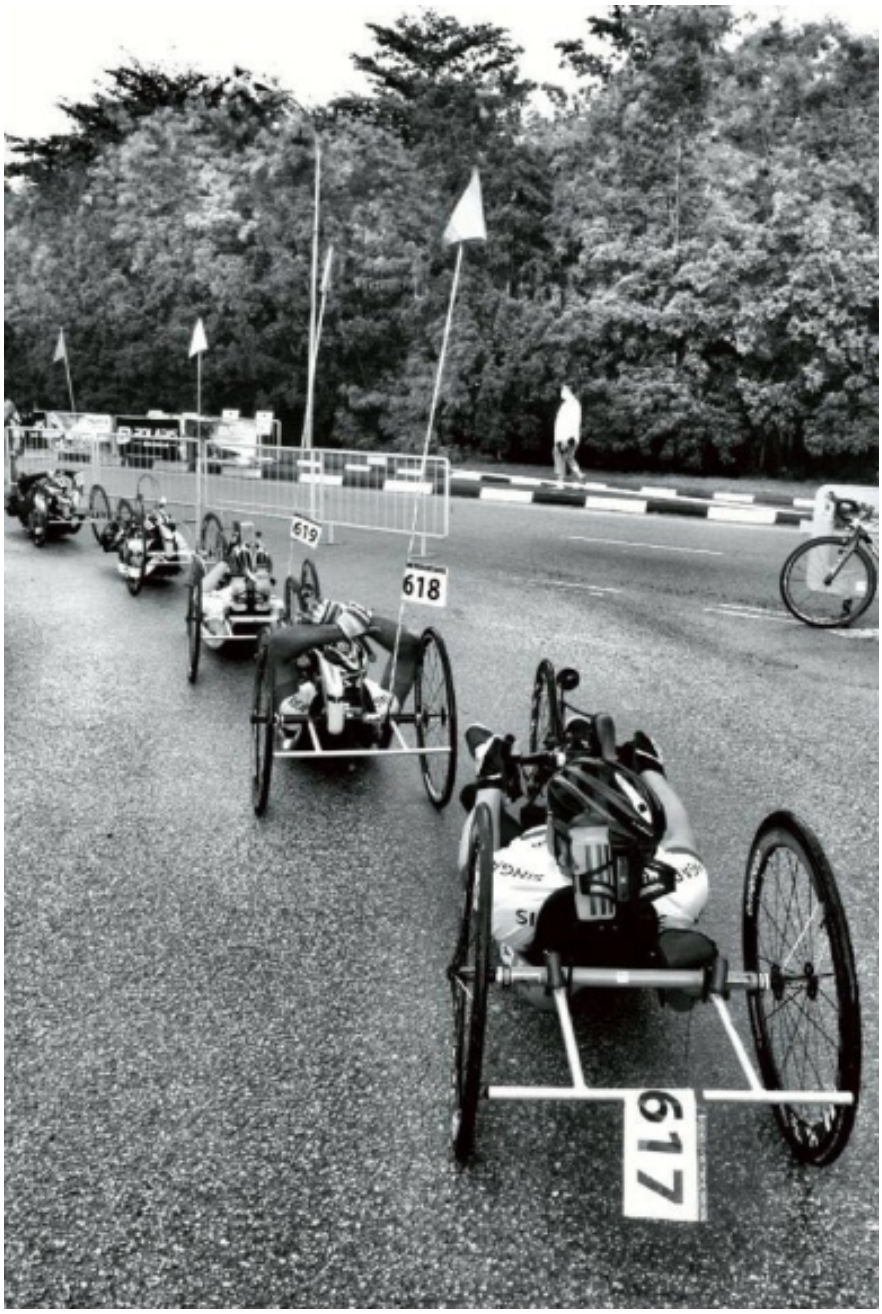

Figure 6. Belonging to a community of cyclists. (P5)