PERSONAL CONSTRUCT PSYCHOLOGY AND THE RESEARCH INTERVIEW: THE EXAMPLE OF MENTAL TOUGHNESS IN SPORT.

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Personal construct psychology (PCP; Kelly, 1955/1991) offers researchers and practitioners several useful methodologies for eliciting the personal constructs of individuals. However, there has been a tendency in the PCP literature to become reliant on traditional construct elicitation procedures such as triadic and dyadic sorting as well as laddering interviews. The power of PCP in guiding the design of a retrospective interview protocol for research purposes, in particular, has not featured strongly. We address this issue in this paper by describing a case example of how we have employed PCP to design an interview protocol for examining the phenomenon of mental toughness in sport. Evidence demonstrating the usefulness of the proposed methodology is described and suggestions for future research are offered.

Keywords: *research interview; construct elicitation; content; structure; organisation*

In its 50 year history, personal construct psychology (PCP; Kelly, 1955/1991) has successfully informed research and practice in a variety of academic disciplines such as nursing (Costigan, Ellis, & Watkinson, 2003), education (Pope & Denicolo, 2001), forensics (Horley, 2003), politics (Stojnov, 2003), and psychotherapy (Winter & Viney, 2005). The repertory grid is the key tool of PCP and the technique most frequently employed to explore personal construing in both professional and academic settings. In fact, over the last 50 years it has flourished to an extent where it has become synonymous with PCP. There are other, less prominent techniques (e.g., laddering, pyramiding, self-characterization sketches) that are used by personal construct practitioners and researchers to explore personal construing (Denicolo, 2003; Fransella, 2003). Little attention has been devoted in the PCP literature, however, to examining the effectiveness of a PCP interview methodology as a research tool.

In this manuscript we address this overlooked issue by describing a case example of how we have used PCP to design a retrospective interview protocol containing several open-ended questions for examining mental toughness in Australian football. As we were unable to provide a detailed overview of how we designed the PCP interview protocol previously (Gucciardi, Gordon, & Dimmock, in press), the primary objective here is to describe the process involved in generating the open-ended questions. A brief discussion of the findings is presented to support the usefulness of this interview methodology; however, the interested reader should consult our previous manuscript for a detailed discussion of the findings (Gucciardi et al., in press). In so doing, we hope to stimulate ideas about how PCP can be employed to develop an interview protocol for any line of psychological inquiry. After providing a brief discussion of the background to the present study, we next detail our thinking behind the development of the interview questions. Following this, we discuss some of the findings from our own and others' (Chambers, 2008; Savage, 2006) research using our interview protocol described here. We conclude by offering some suggestions for future research.

BACKGROUND TO THE STUDY

Mental toughness in sport is a relatively new and growing area of sport psychology research, hav-

ing caught the imagination of both the general sporting public and the academic community. In fact, there are currently only a handful of peer-reviewed studies which have examined this psychological construct (Bull, Shambrook, James, & Brooks, 2005; Fourie & Potgieter, 2001; Jones, Hanton, & Connaughton, 2002, 2007; Thelwell, Weston, & Greenlees, 2005). Although impressive and providing some insight into the complexity of this phenomenon, research on this apparently desirable construct has been inadequate as it has focused only on describing the key characteristics and outcomes of mental toughness (Gordon, Gucciardi, & Chambers, 2007). To enable both conceptual and applied advancements, more research was needed to better understand both mental toughness outcomes and processes. For example, research has failed to understand when these characteristics are required, what they enable a mentally tough athlete to do, and what overt behaviours mentally tough athletes characteristically exhibit (Gucciardi & Gordon, 2007).

Given the atheoretical nature of previous research in the area (Gordon et al., 2007), our approach was to adopt a theoretical framework in which an individual's views, experiences, meanings, and perceptions can be articulated and understood to allow for a more comprehensive examination of the mental toughness phenomenon. Accordingly, we were interested in adopting a theoretical framework that could facilitate our attempt to gain a deeper understanding of the pertinent issues described previously as well as providing a theoretical lens with which to interpret the data. The primary objective of our research, therefore, was to explore the content as well as the structure and organisation of mental toughness within an Australian football context. The interview protocol illustrated in Table 1 and described hereafter aimed to facilitate this process.

Table 1. *Gucciardi et al.'s (in press) PCP interview protocol.*

Note: The relevant PCP principle is italicised in parentheses.

Q1. Please describe for me what you consider 'mental toughness' to be in football. Can you offer a definition, phrase or quote to describe it?

Q2. What do you think are the contexts which require a footballer to be mentally tough and those contexts which do not? (*situations*)

Q3. What do you believe distinguishes mentally tough footballers from those footballers who are not mentally tough? (*people*)

Q4. What do you consider to be the contrast of each of these characteristics? (*dichotomy corollary*)

Q5. In your opinion, what do you consider to be the role(s) or purpose(s) of each of these characteristics? (*behaviours*)

Q6. Please rank these characteristics, according to what you believe, in order of importance for mental toughness in football. (*organisation corollary*)

Q7. Please list and describe those contexts to which you believe each of these characteristics are useful and those contexts in which they are not useful. (*range corollary*)

Q8. I want you to put yourself in your [other person] shoes and describe for me what you believe s/he would consider mental toughness in football to be? (*sociality corollary*)

DESIGNING THE PCP INTERVIEW

In designing the interview protocol we were concerned with how we could use several of the 11 corollaries, other established methodologies of a personal construct enquiry (e.g., the repertory grid), and information regarding Kelly's (1955/1991) clinical work to design open-ended questions for construct elicitation. Perhaps the most salient feature that we drew from Kelly's clinical work was his emphasis on adopting a *credulous approach* toward everything the interviewee mentions (Fransella, 2003; Kelly, 1955/1991). Specifically, the interviewer must not disregard any of the interviewee's discourse because it does not conform to his or her own or

others thinking, or is even inconsistent with what previous research has revealed. The endeavour, rather, is to see the interviewee's world through his or her eyes. Kelly highlighted that whilst the credulous approach should encourage the interviewer to respect what the interviewee is saying they must not be misled by that individual's idiosyncrasies. In essence, the interviewer needs to perform a "balancing act" throughout an interview to ensure that they do not disregard anything that is mentioned by the individual because of any preconceptions they may have, whilst at the same time maintaining some level of objectivity about the interviewee's discourse. In other words, the interviewer needs to subsume the interviewee's construing without being captured by it (Fransella, 2003).

The credulous approach is evident in our interview schedule from the outset (i.e., asking the interviewee about his or her perception of mental toughness) and is maintained throughout by directly asking each interviewee for his or her opinions and thoughts in each question. By directly asking the interviewee for his or her opinions and thoughts in each question of the interview (e.g., what do *you* believe…, how do *you*…, etc) the interviewer is also encouraged to maintain some level of objectivity, as they are constantly reminded of the idiosyncratic nature of those comments whilst recognising it as one valid formulation of events. Put simply, although those statements are useful for that individual they may not necessarily be useful for another individual, as they only represent that individual's construing.

Particular *contexts* and *people* are the most frequently employed elements in PCP research that utilises the repertory grid technique (Fransella, Bell, & Bannister, 2004; Jankowicz, 2004). This is not surprising given that Kelly (1955/1991; 2003) highlighted in the *experience cycle*, which is based on the *experience corollary*, the central role that the contexts or events of our lives play in the development and modification of personal constructs. This is due to our drive to make sense of human behaviour by interpreting it within the context in which it occurs. Because we are in constant and continual engagement with the external world we are encouraged to actively seek out, describe and evaluate the phenomena we experience in an

attempt to anticipate and predict what will occur in the future (Kelly, 1955/1991). Indeed, certain people and contexts are prominent events that we consistently encounter on a daily basis throughout our lives. In using this tenet, we asked interviewees to identify those contexts which do and do not require mental toughness. An important implication of such a question for exploring each interviewee's personal construing and gaining an understanding of mental toughness is that the interviewee is being placed in a better position to consider it by placing themselves in these contexts based on one's personal experiences to identify the salient features of those experiences. Importantly, this also ensures that the information explicated by the interviewee is more specific and relates to the particular behaviours associated with mental toughness.

People are also another important element in the repertory grid technique. As with most things in life, there will always be individuals who are perceived as being high in a construct and those who are not, and individuals will import characteristics of these individuals from encounters with them. We attempted to reveal a deeper understanding of mental toughness by asking individuals about the characteristics (and their contrasts) that distinguish mentally tough individuals with individuals who are not. As explicated by the *construction corollary*, it is those regularities and inconsistencies of certain events (i.e., contexts and people) that represent characteristics that encourage the development of construct(s) pertaining to a certain phenomenon (Kelly, 1955/1991), and the endeavour of the interviewer is to gain access to these constructions. The *dichotomy corollary* extends this notion by asserting that these similarities and inconsistencies form references axes or constructs (Kelly, 1955/1991) where there is a personally relevant (emergent) pole and a contrasting pole that implies some distinction (contrast pole). Thus, there was the need to establish each interviewee's constructions in terms of bipolar constructs, as it is only in the context of the opposite pole that we can begin to understand the true meaning of that construct (Kelly, 1955/1991). The construct *solution-focused coping vs. problem-focused coping*, for example, can represent a completely different set of characteristics and

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behaviours when compared with the construct *solution-focused coping vs. emotion-focused coping.*

Kelly (1955/1991) originally introduced two methods for eliciting bipolar, personal constructs. The difference method, which requires that the interviewee express how the third element in a triad differs from two others, is the most commonly employed technique in repertory grid research (Neimeyer, Bowman, & Saferstein, 2005). In contrast, the opposite method requires that the interviewee express the opposite for the similarity pole of the construct. Repertory grid research shows that the difference method is effective in producing higher levels of differentiated personal construing, but produces a greater number of 'bent' (i.e., nonantonymous, orthogonal) constructs, whereas the opposite method involves an instructional set that is less complex and enhances bipolarity, but produces lower levels of differentiated personal construing through the generation of extreme, negative contrast poles (Hagans, Neimeyer, & Goodholm, 2000; Neimeyer, Neimeyer, Hagans, & Van Brunt, 2002). Noting these advantages and disadvantages, Neimeyer et al. (2005) recently developed and tested a new method of personal construct elicitation, called the contrast method, which was shown to avoid construct negativity and the generation of bent constructs, whilst generating higher levels of personal construct differentiation through a relatively straightforward instructional set. The contrast method instructs individuals as follows: "To you, being [emergent pole] would contrast with someone who is…" (Neimeyer et al., 2005, p. 244).

Although these methods have been developed and evaluated for repertory grid usage we considered each as possible techniques for eliciting bipolar, personal constructs in a PCP guided interview. Our preference here was the contrast method (see Table 1, Q4). Obviously, we cannot make any judgments as to which of these three or any other methods for that matter may be more effective than any other method for eliciting bipolar constructs in an open-ended interview format. The important issue is that researchers explicitly attempt to identify both the emergent and contrast poles of a construct, as PCP emphasises that we cannot fully understand what the emergent pole of a construct is without

gaining a sense of the contrast pole of that construct. It is in this context that we can gain a more accurate understanding of what these characteristics mean for that individual's own construct and any subsequent behaviour. From a conceptual standpoint, identifying the contrast pole of a construct enabled us to arrive at a more accurate understanding of mental toughness by conceptualising mental toughness in the context of what it is not. This was a notable limitation of previous research on mental toughness.

Now that we had gauged each interviewee's personal constructs regarding mental toughness in the contexts that require mental toughness, our focus turned to the understanding these constructs in more detail. First, it is simply not enough to only identify what constructs an individual holds about mental toughness; we need to identify what behaviours the individual infers from these constructs. There are many ways in which questions can be posed to identify pertinent behaviours, but we chose to ask the interviewees what they believe is the purpose or role of the construct. One alternative that we considered was simply asking the interviewee what it is that individuals do in those contexts that require the phenomenon of interest (e.g., "what do *you* believe are the behaviours those individuals who become self-focused in [situation] commonly display"). By gaining an understanding of the behaviours an individual ascribes to a particular construct we gained further information that enabled us to understand the idiosyncratic anticipations and interpretations that an individual maintains about mental toughness.

The *organisation corollary* also needs to be considered when trying to understand the meanings people ascribe to a psychological phenomenon. According to this corollary, constructs are organised into a hierarchical system with some constructs being more personally important (superordinate) than others (subordinate; Kelly, 1955/1991). The purpose of this hierarchical organisation is to reduce the chaos of the external world and provide the individual with clear avenues of inference and movement. Accordingly, people do not only differ in their interpretations of events but also in the importance they place on certain constructs within their system. Essentially then, we aimed to understand the relationships between the constructs identified as

keys to mental toughness. By asking the interviewee to rank the constructs in order of importance we identified preliminary information about the organisation of their superordinate and subordinate constructs. We also sought to strengthen this understanding by establishing the permeability of each of these constructs by asking the interviewees to list all the situations for which each construct is useful and not useful for, as guided by the *range corollary*. A construct will only account for the anticipations known to that individual and when a construct has a higher range of convenience (a greater perceived utility) more inferences can be made allowing it to be applied to a greater variety of events (Kelly, 1955/1991). The implication is that a construct with a higher range of convenience should be considered more superordinate than a construct which has a lower range of convenience.

When a psychological phenomenon involves more than one individual assumptions about similarity of construing (*commonality corollary*) and trying to understand others' construing (*sociality corollary*) become appropriate, as groups of individuals may share their ways of construing. As implied by the sociality corollary, understanding others' views better equips an individual to extend their own personal construct system (Kelly, 1955/1991). With this corollary in mind, we asked interviewees to take the place of another individual and describe the characteristics and the roles of these characteristics that they believe this individual would consider pertinent to mental toughness. By taking the perspective of another individual the interviewee can be encouraged to go beyond his or her idiosyncrasies and further explore and consider how another individual may conceptualise mental toughness. The endeavour, therefore, was to encourage the interviewee to take a fresh look at events so that we could gain a more explicit and in-depth understanding about mental toughness from that individual.

OVERVIEW OF THE METHODS AND RESULTS

The usefulness of the aforementioned interview methodology can only be supported when there is evidence to indicate that it allows for the ac-

cruement of quality descriptions and explanation, and is equivalent or superior to similar methods of construct elicitation (Savage, 2006). In designing this interview, we were interested in alleviating some of the concerns of previous research by gaining an understanding of what mental toughness is in the context of what it is not, when mental toughness is and is not required, what mental toughness enables one to in such situations, and the behaviours characteristic of mentally tough footballers (cf. Gucciardi & Gordon, 2007).

Methods

In our study (Gucciardi et al., in press), 11 Australian football coaches ($M_{age} = 42$, $SD = 9.62$), all of whom had extensive playing and coaching experience at the highest level, were interviewed using the interview schedule displayed in Table 1. Interviews were semi-structured in that conversations with each participant were guided by the questions listed in Table 1. Although each interview began with Q1 and ended with Q8, conversations were not constrained by the interview guide so as to allow new questions or discussion points as a result of each participant's discourse. Both clarification ("What do you mean by…?") and elaboration probes ("Can you give me an example of…?") were used throughout each interview to both prompt interviewees in such circumstances and encourage clarity and richness of data. Participants were sent a copy of the interview schedule at least three days prior to their interview and were asked to reflect on these questions.

The initial conceptualisation of mental toughness generated from these 11 interviews was then presented to two independent coaching cohorts at a national ($n = 58$; Gordon & Gucciardi, 2006a) and state coaching conference ($n = 49$; Gordon & Gucciardi, 2006b). Participants were provided with a detailed account of the key components of the emerging theoretical model during a two-hour workshop. The primary purpose of these workshops was to establish if the conceptualisation of mental toughness generated from the initial interviews reflected the personal constructions of mental toughness held by a larger and more representative group of coaches

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(i.e., experience, coaching level). Both coaching groups agreed with the key characteristics, situations, and behaviours described in the initial conceptualisation; however, several other situations were included in the final model of mental toughness presented in Figure 1.
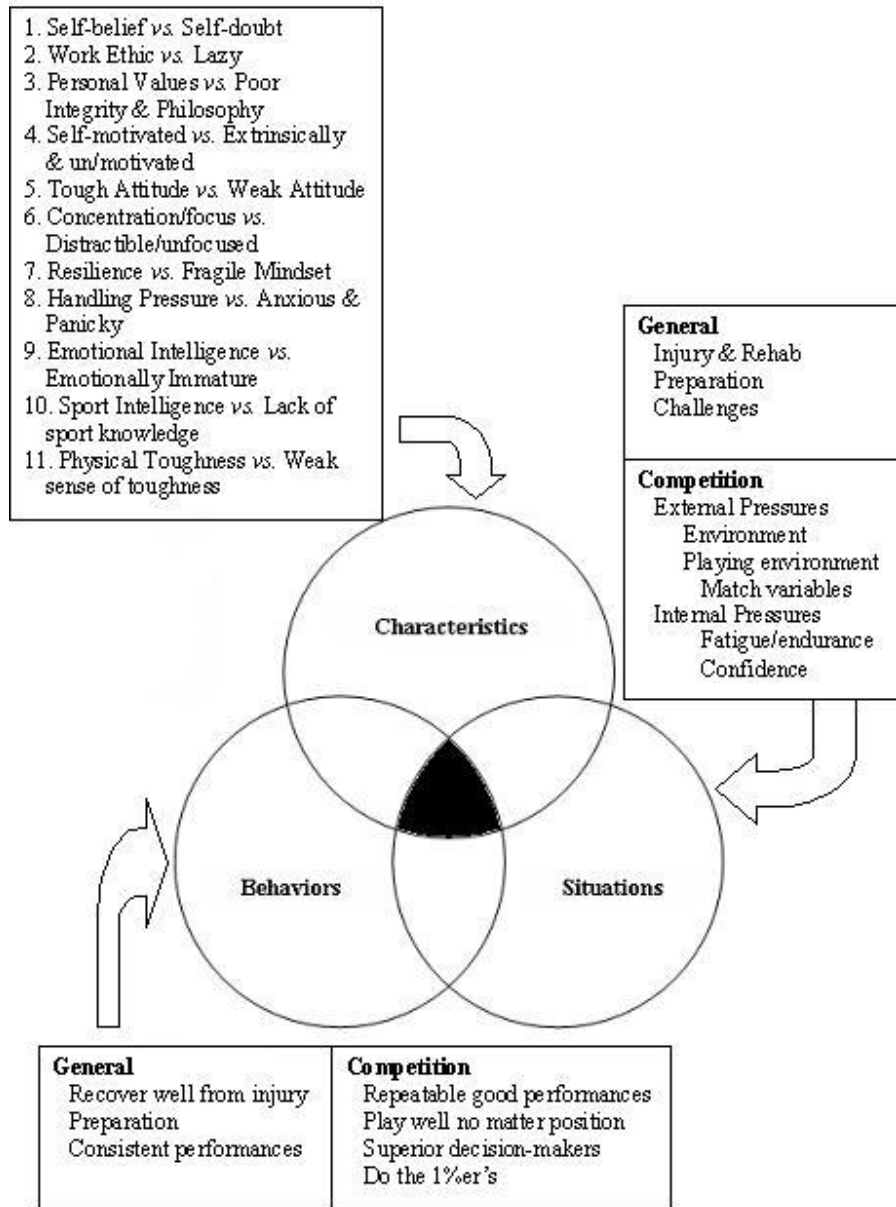

Figure 1: *A model of mental toughness in Australian football (adapted with permission from Gucciardi et al., in press).*

Data Analysis

To address calls in the qualitative methods literature for researchers to provide a theoretical analysis for the findings (e.g., Morse, 1994), a primary purpose of this study was to develop an explanatory model of mental toughness in Australian football. Therefore, the transcribed verbatim data was analysed using grounded theory analytical techniques (Glaser & Strauss, 1967; Strauss & Corbin, 1998), the aim of which is to develop theory from data by reading (and rereading) a textual database and 'discovering'" or labelling variables (called categories, concepts and codes) and their interrelationships. Two independent researchers performed the analysis.

Results

The resultant model of mental toughness, displayed in Figure 1, contains three inductively-derived themes of mental toughness: characteristics, situations, and behaviours. Here we discuss the findings of our research in relation to the primary objective of our research, which was to explore the content as well as the structure and organisation of mental toughness within an Australian football context.

Content

Overall, 32 bipolar constructs were revealed, with one pole describing the attribute in relation to a mentally tough footballer and the other in relation to one who is not. These attributes were clustered into 11 key components and ranked in descending order of importance for mental toughness in Australian football (see Figure 2). Perhaps the most salient aspect of this data is the identification and understanding of what individuals believe mental is not. Previous research has been limited in that it has focused only on describing the key characteristics of mental toughness without placing this understanding in the context of what individuals believe mental toughness is not. Further support for the identification of these 11 keys to mental toughness came from two independent coaching cohorts attending a National Coaching Conference (*n* = 58; Gordon & Gucciardi, 2006a) and a Level 2

Coaching Course (*n* = 49; Gordon & Gucciardi, 2006b).

	Emergent pole	*Contrast pole*
1.	Self-belief	Self-doubt
2.	Work ethic	Lazy, only doing the basics
3.	Personal values	Poor integrity & personal philosophy
4.	Self-motivated	Extrinsically / unmotivated
5.	Tough attitude	Weak attitude
6.	Concentration & focus	Distractible and unfocused
7.	Reticence	Fragile mindset
8.	Handling pressure	Anxious and panicky
9.	Emotional intelligence	Emotionally "dumb"
10.	Sport intelligence	Lack of sport knowledge
11.	Physical toughness	Weak sense of physical toughness

Figure 2. *The 11 keys to mental toughness in Australian football and their contrast*

Coaches were provided with a detailed account of the conceptualisation of mental toughness obtained previously and were asked to reflect on their own experiences in an attempt to identify any areas that they believed needed to be clarified or was not represented in the model. Interestingly, there was considerable overlap between the three conceptualisations of mental toughness and only slight changes to the original model were made (e.g., types of situations).

Important information was also obtained about the situations that demand mental toughness from an Australian footballer. There was a general consensus that all aspects of being an elite footballer required some degree of mental toughness; however, several situations in particular were considered to require a large degree of mental toughness, which included: injuries and injury rehabilitation; preparation for training and competition; challenges (personal, on- and off-field); peer and social pressures; and internal (e.g., fatigue/endurance and low in confidence) and external pressures (e.g., environmental and playing conditions, match variables and physical risk). It was interesting to note that the aforementioned situations were described as demanding greater levels of mental toughness because they required a footballer to apply a higher percentage of the key mental toughness characteristics. In contrast, those situations demanding

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lower levels of mental toughness were said to require fewer of the key mental toughness characteristics. This data represents an important contribution to the literature as there is no research to date that has attempted to gain an understanding of those situations demanding mental toughness.

Data regarding the behaviours commonly associated with mentally tough footballers complimented the information on the key characteristics and situations demanding mental toughness. Several overt mentally tough general (e.g., meticulous preparers, consistent performance) and competition-specific behaviours (e.g., repeatable good performance, versatility, superior decision-makers, do the 1%er's) were also revealed. Unlike previous research, which has provided general descriptions of mentally tough behaviours in terms of the outcomes of being mentally tough, we were able to identify behaviours evident on and off the field in relation to the situations that demand mental toughness.

Structure and Organisation

Two questions in our interview provided information about the structure and organisation of mental toughness. First, having interviewees rank the key characteristics in descending order of importance provided us with preliminary evidence about the hierarchical nature of these constructs. Consistent with previous research (e.g., Jones et al., 2002; Thelwell et al., 2005), self-belief was unanimously cited as the most important characteristic in terms of mental toughness for Australian football. Further support for the importance of the keys to mental toughness was obtained as part of our attempt to increase the trustworthiness of the data. Coaches attending a National Coaching Conference (Gordon & Gucciardi, 2006a) and a Level 2 Coaching Course (Gordon & Gucciardi, 2006b) were asked to rank the keys to mental toughness in descending order of importance. Encouragingly, a visual inspection of the rankings of the eleven mental toughness characteristics between the two independent coaching cohorts displayed in Figure 3 indicates considerable overlap. Second, the usefulness of each of the 11 keys to mental toughness for situations demanding mental toughness served to compliment the rankings data. Those key characteristics rated as more important for mental toughness were generally believed to be useful in dealing with a greater variety of contexts demanding mental toughness thereby suggesting a greater range of convenience for these constructs.

SUPPORTING EVIDENCE

Savage (2006) recently compared the constructs produced by alternative construct elicitation procedures. Of the five investigatory procedures chosen, three were derived directly from PCP (role related persons as elements, event experiences as elements, and self-characterization) and two were interview protocols (neuro-linguistic programming and Gucciardi et al.'s [in press] PCP interview protocol). A case study approach ($n = 1$) was adopted whereby data was collected over a four-week period, with seven days between each alternative procedure. Savage compared the 'maps' of mental toughness that were obtained via each individual procedure and found that both the PCP and interview procedures were successful in eliciting a similar amount of constructs, suggesting that neither group of methodologies appeared to be superior to the other in regards to the number of constructs identified. In particular, both interview procedures were found to be adequate processes by which to elicit constructs with both techniques comparing favourably with the three PCP procedures. Although some amount of equivalence across procedures was evident, Savage cautiously concluded that no one procedure provided a complete picture of the phenomenon of mental toughness in sport.
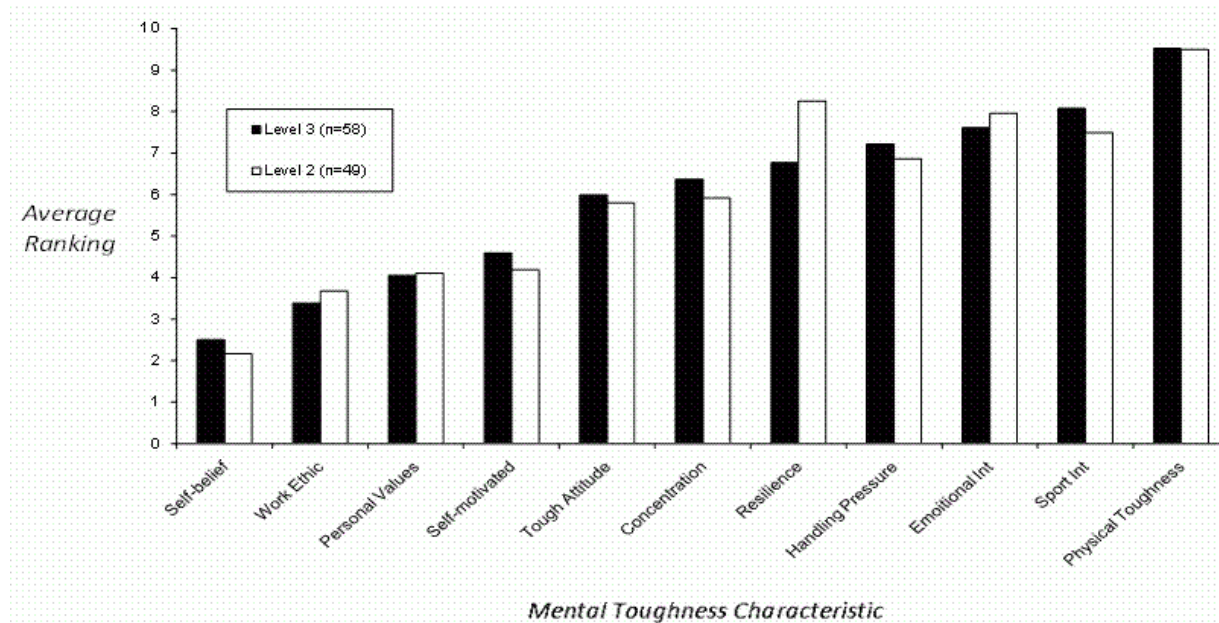
Figure 3: *Comparison of the average ranking of perceived importance of the eleven mental toughness characteristics between Level 2 (Gordon & Gucciardi, 2006b) and Level 3 coaches (Gordon & Gucciardi, 2006a).*
Note*: Lower average rankings were perceived to be more important for mental toughness.*

Further evidence to support the notion that the processes and theoretical underpinnings of the interview protocol described here allow for the accruement of quality descriptions and explanation can be found in a recent adaptation of the interview protocol described here. Chambers (2008) conducted semi-structured interviews with seven national-level swimmers (six male, one female; M_{age} = 26, SD = 6.22) and seven elite swim coaches (six male, one female; M_{age} = 43.43, SD = 9.52) in an attempt to better understand the resilience phenomenon in swimming. A content analysis of the transcribed verbatim whereby raw quotations were organised into interpretable and meaningful themes and categories revealed three general categories (characteristics, situations, and behaviours). Although similar labels to those reported by Gucciardi et al. (in press) were used by Chambers (2008), which seems to reflect the nature of the interview protocol, the content of the categories were substantially different.

The first category, characteristics*,* illustrated seven core components of resilience in swimming (*self-belief vs. self-doubt; bouncing back*

vs. overcome; motivation vs. unmotivated; perspective vs. no perspective; knowledgeable vs. uninformed; work ethic vs. casual; and *emotional regulation vs. overtly emotional*), whereas the second, situations, highlighted the importance of several general, competition-, and training-specific situations demanding a swimmer's resilience (e.g., illness, social challenges, success and failure, coach expectations). The final category, behaviours, comprised a number of general and competition-specific behaviours associated with demonstrating resilience in swimming (e.g., solution-focused, engagement, performance consistency). As one of the first qualitative examinations of resilience within a sport setting, the findings provided an important insight into resilience in swimming. Encouragingly, Chambers (2008) observed several similarities with previous research on resilience from different research contexts (e.g., academic settings, social settings) with regard to the various resilience characteristics.

FUTURE RESEARCH

Our own research (Gucciardi et al., in press) and that of Savage (2006) and Chambers (2008) provides preliminary evidence demonstrating the usefulness of using tenets of PCP to design a retrospective research interview. Specifically, our research demonstrated the usefulness of the PCP guided interview protocol in obtaining quality descriptions and explanation above and beyond that which was previously reported in the literature (see also Chambers, 2008), whereas Savage's research demonstrated its equivalence with other methods of construct elicitation. However, these are only preliminary examinations and further research is required to provide a more thorough analysis of the effectiveness of such a methodology. Comparisons of the PCP guided interview with the more traditional methods (e.g., repertory grid, laddering, self-characterisation), in particular, will go some way to demonstrating if in fact a PCP guided interview methodology is equivalent or superior to other methods of construct elicitation. Depending on such findings, it may be that researchers consider employing a combination of construct elicitation methods for gaining a more complete understanding of an individual's personal construct system (Savage, 2006) although no definitive evidence exists at present as to the effectiveness of such combinations. Indeed, this represents an exciting avenue for further research. Furthermore, other psychological phenomena need to be investigated to determine the extent to which the proposed interview methodology can be generalised to other lines of psychological inquiry.

Consideration should also be given to the *modulation corollary* and the *fragmentation corollary* when endeavouring to understand the organisational properties of an individual's personal construct system. The modulation corollary postulates that some constructs are more accommodating (i.e., permeable) of new or novel events within their range of convenience. If an individual is not aware of these novel encounters then novelty will be ignored and constructive revision will not take place at the end of the experience cycle (Kelly, 1955/1991). In particular, these permeable, superordinate constructs apply to a wide range of events in order to maintain continuity between apparently different experiences. The result of this is that a person's construct system is often fragmented where his or her construing of some experiences may appear inconsistent with his or her construing of others, as stated by the fragmentation corollary (Kelly, 1955/1991). Therefore, the meaning generated through the elaboration of a person's system can be inferentially incompatible with an existing subsystem of constructs; that is, there is some inconsistency between different parts of the system which may vary according to contextual information as the person interprets. For example, elite athletes face many adversities in their sporting careers. The challenge for these individuals then is to resolve the inconsistencies that a more superordinate construct bears in relation to different adversities so that this personal construct (e.g., *hard work vs. lazy*) is consistent in its application across a wide range of encounters (Kelly, 1955/1991). The influence of both these corollaries in future research can be evidenced in questions that ask interviewees to, for example, consider which of the constructs they have identified would prove most useful for anticipating and dealing with a novel situation (i.e., one which they did not identify as a context relevant for the target phenomenon previously) and those which would not be useful.

SUMMARY

In the PCP literature, there has been a tendency to become reliant on the traditional construct elicitation procedures such as triadic and dyadic elicitation and laddering interviews. The power of PCP in guiding the design of a retrospective interview protocol for research purposes, in particular, has not featured strongly. In this paper, we have described a case example of how we have employed several tenets of PCP to inform the design of a retrospective interview protocol for identifying and understanding mental toughness in Australian football. The interview methodology proposed here can be conceptualised as a 'bottom-up' process whereby we have encouraged the interviewees to explore the entire spectrum of the mental toughness phenomenon and using specific tenets of PCP to narrow their focus to identify those higher-level, super-ordinate

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constructs that seem to identify and explain a significant portion of mental toughness.

Preliminary evidence demonstrating the usefulness of the proposed methodology was described (Chambers, 2008; Gucciardi et al., in press; Savage, 2006) and suggestions for future research in determining its effectiveness in relation to the more prominent PCP methods (e.g., repertory grid, laddering, self-characterisation) were offered. In so doing, we hope to have offered one alternative approach to gathering information about personal meaning as well as stimulated novel thoughts about how PCP can guide a retrospective interview protocol for any line of psychological inquiry. Perhaps most intriguing is the potential role that these tenets may also play in facilitating the development of questions for a 'prospective' interview, whereby the interviewer is endeavouring to further explore how an individual anticipates certain events in their life and how they actually behave when they experience those events.

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