

MUSING ABOUT CONSTRUCTS

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Construing has not received the attention in the literature that has been directed toward identifying and describing constructs. It is proposed that Personal Construct Theory (PCT) could benefit from elaborating the notion of construing through consideration of established concepts from other fields. Using substance use as an example, the concepts of outcome expectancies, implicit cognition and habit are examined, as a means to elaborate the notion of construing. A link between these concepts is the pervasiveness of non-conscious cognition. As PCT is often described as a cognitive theory it is instructive to also consider the contribution of non-deliberative processes to construing.

Keywords: *Construing, expectancies, implicit cognition, habit*

INTRODUCTION

In this paper I'd like to 'muse' about constructs, muse in the sense to think or ponder. The central proposal underlying this paper is that Personal Construct Theory (PCT) might benefit from further elaboration of the notions of constructs and construing. While substance use was not a topic Kelly addressed to any great extent, consideration of concepts from the contemporary literature in this field offers opportunities to enhance understanding of what Kelly has referred to as construing. Three concepts (e.g. outcome expectancies, implicit cognition and habit) were selected for this purpose, which while employed in the substance use literature, have a wider application and history in the psychological literature generally. These concepts and substance use examples are discussed to highlight an important consideration for PCT, namely, that construing is not necessarily a fully conscious, deliberative process.

The fundamental postulate of Kelly's Personal Construct Theory is that "A person's processes are psychologically channelized by the ways in which he anticipates events" (Kelly, 1955, p.46). Kelly describes this as occurring through a "network of pathways", more commonly referred to as constructs. Constructs are variously described by Kelly as a discrimination of likeness from difference, an abstraction from events, 'two-way' streets to reach conclusions,

interpretations of facts as well as ordinal axes in psychological space. Constructs are described as enabling the anticipation of events, and making events more predictable and controllable (Kelly, 1955). Whereas constructs are abstractions or attributed similarity, construing is the process whereby "a person places an interpretation upon what is construed" (Kelly, 1955, p.50).

Before proceeding, it is worthwhile to consider the parallels between muses and musing, and constructs and construing. Like constructs, the muses of Greek mythology could be considered as either an element (i.e. what is construed), such as Melpomene, the muse associated with tragedy or Thalia the muse associated with comedy (Grant & Hazel, 1994) or as a construct (e.g. *tragic* vs. *comic*). However, in addition, both musing and construing are processes, variously creative, practical and abstract; by which constructs are invented and applied to anticipate events.

While Kelly provided a rich language regarding types of constructs, and subsequent research has expended considerable attention towards individuals' constructs, less attention has been given to the process of construing itself. In part, my interest in this topic was generated by conducting research into cannabis use and being exposed to concepts that have relevance to construing but which do not feature prominently in the PCT literature. As a starting point I'd like to

Musing about constructs

consider a section of a repertory grid analysed by Slater (Slater, 1977).

Referred to as the ‘Addict’s’ grid, two constructs have been selected because they capture a key feature of cannabis use, namely, the reported motivation to obtain relaxation (Green et al., 2003). In this grid excerpt, I have construed *warm feeling* to reflect a pleasant, relaxed feeling and *tense* as the opposite to this effect. In this grid a value of 1 equals *causes this effect very strongly* and a 5 equals *causes the opposite effect very strongly*. Not surprisingly there is a significant negative correlation between the constructs ($r = -0.53$), however, closer inspection reveals widely differing relations between these constructs for the respective drug elements. For the purpose of interpretation the elements have been reordered so like elements are located together, to illustrate these relationships. In this grid drynomil and methedrine were construed as not producing a warm feeling but producing tension. In contrast, cocaine, marijuana, alcohol and LSD were construed as equally producing both effects, whereas heroin, mandrax and barbiturates produced a warm feeling but not tension. I was particularly interested in cannabis (marijuana) and the seemingly paradoxical effects of both a warm feeling and tension being experienced.

Table 1: *Excerpt from Slater’s ‘Addict’s’ grid*

	Drynomil	Methedrine	Cocaine	Marijuana	Alcohol	LSD	Heroin	Mandrax	barbiturates
Warm feeling	4	3	1	2	2	3	2	1	1
Tense	1	1	1	2	3	3	5	5	5

The ratings made by the person who completed the grid could be explained by a number of fac-

tors. These include general factors that influence performance such as inconsistency, fatigue or disinterest. In addition there is the issue of variation in experience in relation to substance use. For example, variation across occasions (e.g different effects being experienced in different contexts), variation within occasions (e.g different effects associated with phase or degree of intoxication) as well as responses that are based on general versus recent experience (Green, Kavanagh & Young, 2003). For example, a person may typically experience relaxation but on the most recent occasion of use tension is experienced. In rating the grid, the more salient recent experience may be ignored in favour of usual experience or be taken into account because it was recent and memorable. In the example of a person experiencing relaxation and tension, both outcomes may occur but are likely to have different probabilities. Another explanation is that posed by Yorke (1983, 2001), namely, that these implicit construct poles are not opposites of the same construct but implicit poles of different constructs.

Slater was particularly interested in whether the constructs (effects) distinguished between the elements (drugs). This is in effect a question of likeness, i.e., “How much is A like B” or “How alike are A & B compared to C” in relation to certain constructs. The question of likeness or similarity links to the more sophisticated application of a construct as a probability. As a probability, the questions of interest shift to: “How likely is it that A and B produce similar effects, “how likely is it that an effect will occur” or “under what circumstances is it likely that this effect will be experienced”. Construing likeness is an anticipation.

OUTCOME EXPECTANCIES

Outcome expectancies are a concept that has a long history in psychological research generally (Olson, Roesse & Zanna, 1996), but has also been widely employed in researching substance use, particularly alcohol (Jones, Corbin & Fromme, 2001). Derived from past experience, outcome expectancies refer to beliefs people hold regarding the physical and social, or self-evaluative effects that will occur after performing a specific

behaviour (Bandura, 1997). Several authors (Bandura, 1997; Maddux, 1999; and Olson et al., 1996) have proposed different ways to categorise expectancies, which have variously been distinguished from a range of related concepts such as attributions, schemas, set or beliefs. Common to the different descriptions of expectancies is the notion that expectancies are beliefs about the future likelihood of some event. In effect an outcome expectancy is an anticipation.

Consideration of the notions of likeness between elements A & B in terms of a construct *tense – relaxed* is to examine the likelihood of a person being tense or relaxed. Two persons may both be construed as tense, however the second person might act this way infrequently. Context is also important in this regard as construct ratings could be based on either recent experience or more global impression. While likelihood is a component of prediction, Kelly highlighted that “statistical prediction is not the same as psychological significance” (Kelly, 1969). That Kelly was aware of the complexities associated with prediction is illustrated by his discussion of ‘if-then’ relationships. Rather than simple cause-effect relationship he provided an example of conditional probabilities using the example of a child contemplating whether he would receive a “spanking” if he broke his mother’s necklace (Kelly, 1955; pages 122-124). Not surprisingly, Kelly framed this question in terms of whether a spanking and not something else would occur. Such a judgment would involve construing “a considerable variety of events” including (a) his mother’s disposition and mood, (b) the value placed on the necklace, (c) the child’s role in the breakage, (d) the discovery of the act and (e) the circumstances around previous spankings. In this example Kelly is describing a process of construing rather than just an identification of constructs.

Subjective certainty about the likelihood of an event is one of the four properties of expectancies described by Olson, Roese and Zanna (1996). The other properties identified by these authors include: the frequency with which an expectancy is used (e.g. accessibility); whether the expectancy is explicitly or implicitly generated (e.g. in or out of awareness) and importance, in terms of functional importance as well as in terms of implications for other expectan-

cies. Expectancies can also be examined in terms of dimensions such as valence (positive or negative) and imminence of the expected effect.

In considering constructs as expectancies it is timely to note points of convergence, such as the focus on anticipated future behaviour, while also recognising points of divergence between social-learning theory and Personal Construct Theory. Notable points of divergence include Kelly’s dismissal of motivation, his conceptualisation of learning as experience (as opposed to learning from experience) and the importance of bipolarity and contrast. Rather than viewing expectancies and constructs as competitors or combining them cafeteria style as if “alternative conceptual schemes” (Bandura, 1995) it may be useful to view constructs in some contexts as outcome expectancies for the purpose of obtaining another vantage point from which to view construing and human behaviour, especially when the topic of interest *is* anticipating self and others. Further, considering constructs as expectancies offers a link to other literatures and theoretical approaches, which open alternative areas for exploration.

IMPLICIT COGNITION

One such area of potential exploration concerns implicit cognition. The differences that exist within or between individuals in the types of constructs employed have been a central focus of subsequent PCT research and practice. In contrast implicit cognition research has focussed on differences that exist within or between individuals in terms of the accessibility of constructs (Fazio & Olson, 2003). For example, Field, Mogg & Bradley (2004) examined attentional and evaluative biases in recreational cannabis users and controls, using a visual probe task and the Implicit Association Test. The visual probe task involved participants being presented simultaneously with a series of cannabis-related and environment-related word pairs, with one word located at the top of the display screen and the other word at the bottom. Immediately after the display, one of the words was replaced by a small dot until the participant gave a manual response to the probe’s location. The participant was required to respond as quickly as possible to

the probe and the task was intended as a measure of attentional bias. In the Implicit Association Test (IAT) participants categorized stimuli into one of four categories, two target categories (e.g. cannabis-related or environment-related) and two attribute categories (e.g. pleasant or unpleasant). The difference in reaction times between the responses given for the combination of cannabis-related with pleasant attribute and the reaction time for cannabis-related with unpleasant attributes was used as a measure of the strength of the evaluative association between the target (cannabis) and the concept.

Because explicit cognition is characterised by conscious recall and reasoning, and can be subject to social desirability or heuristic processes (Greenwald & Banaji, 1995; Nisbett & Ross, 1980) implicit cognition approaches do not rely on direct verbal report to explore a topic of interest (Fazio & Olson, 2003). Other examples of implicit cognition tasks include word, object or outcome association tasks such as sentence completion. By asking a person to reflect on similarities and differences (e.g. when completing a repertory grid) it is typically explicit cognition that is being tapped into, not infrequently the result being a tightening of how elements are construed. In contrast, implicit cognition does not require introspection or awareness. Implicit cognition approaches may have relevance to approaches which tap into preverbal construing and have to date limited application in PCT research. There are two exceptions. Millis and Neimeyer (1990) employed a lexical decision test to determine whether bipolar constructs or propositions were activated when primed by names of familiar persons. Support was obtained for the hypothesis that both poles would be retrieved and that response time did not significantly differ for construct and contrast poles. Grice et al. (2004) have employed sentence completion stems to elicit constructs, though sentence completion was not employed to examine implicit cognition.

However, making a firm distinction between implicit and explicit approaches is not necessarily clear cut. Neal and Hesketh (1997) in a re-

view of implicit measures concluded it was problematic to infer a measure was exclusively implicit (or explicit) or that a measure of implicit (or explicit) knowledge was exhaustive of a domain. Fazio and Olson (2003) also raised the question regarding the basis for concluding that an individual's attitude is outside of their awareness and cautions against equating implicit measurement with implicit content. Bearing in mind these caveats the relevance of implicit approaches to PCT is worth further consideration.

Further, contemporary cognitive science models emphasise memory as an associative network activated in response to cues. For example, cannabis related cues activate (without intent or conscious thought) expected outcomes in accord with their association in memory (Goldman 1999, Goldman & Darkes, 2004). Such a model incorporates both explicit cognition (e.g. expected outcomes) and implicit cognitions (accessibility and strength of association which influence activation) as influencing behaviour. Such a memory network is depicted in Figure 1 below.

While PCT may appear to have little to offer approaches that emphasise concepts such as 'activation', 'accessibility' and 'automaticity', the importance of individual differences and the individual remain. Memory research has been described as typically seeking to examine processes shared by individuals rather than variation between individuals (Reich & Goldman, 2005). Researchers are however increasingly examining the role of individual differences. Reich and Goldman (2005) found that in response to the word stem, "Alcohol makes me _____", the heaviest drinkers made more positive and arousing responses and that positively toned words increased as the probability of drinking increased. In an entirely different field, employing a modified semantic priming approach, support was found for the role of idiographic but not nomothetic associations between anxiety symptoms and perceived catastrophe among panic patients (Schneider & Schulte, 2007).

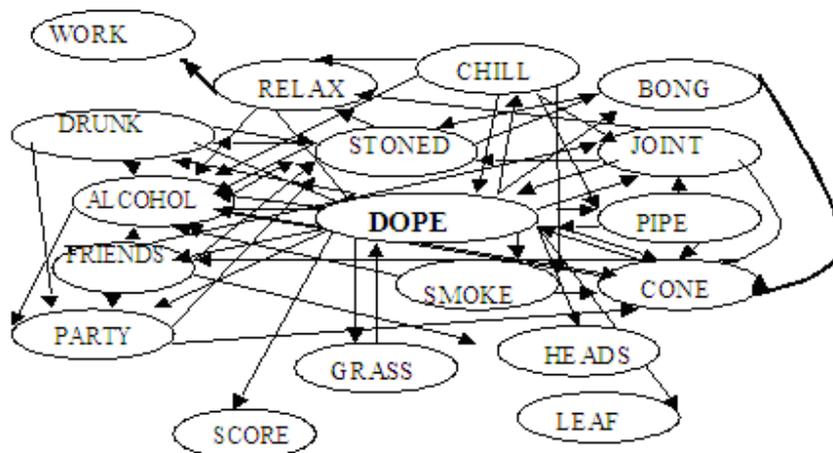


Figure 1: *Memory network*

Conversely, consideration of concepts such as ‘activation’ and ‘accessibility’ have relevance to PCT, particularly in relation to the process of eliciting constructs as well as the link between constructs and behaviour. In musing on these issues it is worth considering the term ‘construct system’ and its constituents, constructs. Kelly (1955) defined construing in terms of placing “an interpretation upon what is construed” through use of a structure of constructs. By constructs Kelly was not referring to word labels but discriminations between events, “similarity and contrast”. Employed individually, Kelly described constructs as bipolar, with the chosen alternative being the pole that is thought to best anticipate events, though limited by a range of convenience.

The Kellian notion of ordinally connected constructs comprising a ‘construct system’ is not necessarily incompatible with the concept of associative networks described above. Rather than neat sets of hierarchies, the relationships between construct hierarchies are more complex and might perhaps more accurately be represented as overlapping or inter-woven networks. The use of free-associates (Reich & Goldman, 2005) to examine implicit cognitions and the associated memory processing model provides opportunities to explore construing as a process, within the framework of contemporary cognitive research.

HABIT

Kelly (1955) and subsequent authors (Bannister & Fransella, 1982, Burr & Butt, 1992) have emphasised individuals as active participants in life, rather than victims of fate. Like a musician, Kelly notes that “only when man attunes his ear to recurrent themes in the monotonous flow does his universe begin to make sense to him” (Kelly, 1955, p.52). Further, Kelly noted that events are anticipated by construing their replications. In relation to habit and contrary to the notion of the inquiring man is what could be referred to as the ‘non-inquiring’ man.

Elsewhere, when discussing construing, Kelly made the distinction between predicting a duplicate of today’s events and abstracting themes that are ‘replicative’ aspects of events. Mills (2006) describes habit as responding to events “as a repeated instance of something already known”. Rather than hypothesis testing, an action is initiated in the expectation (conscious or unconscious) that a certain effect will occur. Examples of individuals seeking the duplication of events were evident in research into cannabis use (Green, Kavanagh & Young, 2004; Green, 2006). Participants in this research when asked about effects of cannabis use, not infrequently gave responses along the lines of: “I don’t give thought to why I smoke”, “I don’t know what effect I expect” or “The same thing happens every time”.

Relatively little has been written about the processes underlying the relationship between habit, intention and behaviour (Aarts, Verplanken & van Knippenberg, 1998) and little has been written from a PCT perspective. Bargh and Chartrand (1999) assert that the question of whether individuals actively choose and control their experiences and behaviours has distinguished the different psychological approaches of the 20th century. Kelly subsumed habit under the section: 'Preoccupation with old material', one of three conditions he identified as unfavourable to the formation of new constructs. Habits were considered to have a purpose, namely, to assist with dealing with the "onrush of events". However, Kelly also refers to habit as "a convenient kind of stupidity which leaves a person free to act intelligently elsewhere" (Kelly, 1955). In contrast, Bargh and Chartrand (1999) refer to automatic processes as "mental butlers".

Aarts, Verplanken & van Knippenberg (1998) have distinguished between behaviour performed "efficiently, effortlessly, and unconsciously" and behaviour that is undertaken regularly. These authors link habit in the former sense with the processes associated with implicit cognition:

... we conceive of habits as goal-directed automatic behaviors that are mentally represented. And because of frequent performance in similar situations in the past, these mental representations and the resulting action can be automatically activated by environmental cues (p.1359).

These authors also state that in addition to habit leading to an increased focus "on the habitually chosen option", that when habit is strong, "alternatives are rejected relatively early in the decision process". In such circumstances "cognitive shortcuts" are followed. From a PCT perspective this could alternatively be conceptualised as a repeated shortening of the experience cycle.

Burr and Butt in discussing addiction suggested that the range of behaviours associated with this term, might be better construed in terms of dependency. Walker (2003) has suggested habit could be understood in terms of nonvalidation, ie. a disinterest or disinclination

to test hypotheses concerning habitual behaviours, while Fransella (2003) has suggested that constellatory (fixed or stereotypical) construing may form the basis of habits.

Attention to habit and the processes that support habit have importance for a number of reasons. At the most fundamental level is Kelly's contention that "our Experience corollary claims that a person's construction system varies as he successively construes the replication of events. If he fails to reconstrue events, even though they keep repeating themselves, he minimizes his experience" (Kelly, 1955, p.172). Secondly, habit may result in a response, but not a meaningful response. Whether the context is life in general, clinical practice or research, simply eliciting a habitual response may not produce responses that further understanding. Understanding habit more comprehensively is considered important to understanding its contrast, namely change and spontaneity. Stephens and Marlatt (1987) suggest that the process of changing a habit requires self-exploration and awareness to regain control, a process that can lead to learning about the role of habit in personal identity, as well as an individual's perceived needs and desires. In effect, these authors are referring to the importance of core constructs and construing of self.

CONCLUSIONS

The purpose of this paper was to reflect on the subject of constructs and construing. Each of the three concepts discussed, were selected for different reasons, however, in the process of writing this paper connections between these topics became apparent. In particular, implicit cognition, i.e., cognition that is 'automatic' or 'outside of awareness' featured in relation to each concept.

Outcome expectancies have similarities with constructs in that both are concerned with anticipating the future and can operate as explicit or implicit cognitions. The notion of implicit cognition may appear at odds with construing as a conscious deliberative process. However, Kelly has noted that constructs are not equivalent to the word labels employed to describe them and constructs are not only thoughts. Fransella and Neimeyer (2003) have highlighted that Kelly

identified levels of awareness and that much construing operates at lower levels of awareness (e.g. preverbal). According to Fransella and Neimeyer recognition that construing operates at different levels of awareness is of significance in counselling and therapy, where a central task is assisting the client to give verbal labels to preverbal construing. Cognition outside of conscious awareness also relevance to core constructs, which are central to personal existence and identity. For example, while an occasional glass of wine may be a minor part of one individual's life, for others, substance use will be central to self-construal, perceived alternatives and the choices the individual makes through life. In the latter instance, to the extent that construing about substance use is outside of conscious awareness, essential aspects of identity and self-maintenance, will be out of awareness.

Implicit cognition has not been a topic of interest to PCT research, though issues such as construct accessibility has clear relevance to the process of construing and construct elicitation. An assumption is frequently made that the constructs that are elicited are the most important constructs. Consideration of the processes of construct activation associated with models of associative memory networks (Rather, Goldman Roehrich & Brannick, 1992) raises interesting possibilities for modelling construct 'systems' and implicative relationships.

Habit, which could be considered the antithesis of active construing is another topic which to date, has received limited attention in the field of PCT. As the contrast to active construing and change it is worthy of further attention. By discussing outcome expectancies, implicit cognition and habit, this paper has in effect been considering the submerged construct poles of likeness, construing as a deliberative process and construing as the replication of events. By considering concepts in established usage outside of PCT, avenues for elaborating PCT have been afforded with the potential to add content-specific depth as well as additional methodological options to practitioners and researchers.

AUTHOR'S NOTE

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74

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Musing about constructs

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