

Choice Theory and PCT:

What are the differences and do they matter anyway?

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ABSTRACT

In this paper I provide a comparison between choice theory and PCT. To provide a context for the comparison I conduct, I initially outline some general assumptions about theories. The purpose of the comparison is to enable practitioners of reality therapy to reflect critically on their practices. This reflection may enable practitioners to become more effective should they wish to do so. Various aspects of the theories are examined such as the type of theories they are and what they are theories of. I conclude that reality therapists do not achieve the results they do for the reasons provided by choice theory. Anyone wishing to examine their results as a reality therapist more closely will require a different explanation of those results. PCT is offered as an alternative explanation for people to consider.

CHOICE THEORY AND PCT:

What are the differences and do they matter anyway?

Reality therapy is a counseling or therapeutic approach that could be considered to belong in the cognitive-behavioral category of psychotherapeutic schools. William Glasser is the creator of reality therapy and published the first book on this method in 1965. Since this book was published, reality therapy has become an enormously popular way of helping others. It has been used in many different situations and has been used by and with people from widely different backgrounds. Regardless of the differences among people, it seems that large numbers of people who experience problems in their lives find it helpful and worthwhile to participate in a program of reality therapy conducted by a trained practitioner. While empirical evidence for the efficacy of reality therapy may not be as abundant as the evidence available for other cognitive-behavioral methods, the evidence that

is available certainly indicates that this is an effective and viable approach for many people.

According to Glasser (1998, p. 116), reality therapy is informed by the principles of choice theory. The framework of choice theory, however, was provided some time after the therapy had been established as a useful therapeutic approach. The original inspiration for choice theory came from another theory known as perceptual control theory (PCT). This theory was developed by William T. Powers and is described in his seminal work *Behavior: The control of perception* (1973) and a later book *Making sense of behavior: The meaning of control* (1998). Glasser spent time learning PCT (at that time it was called control theory or control systems theory) from Powers and then made changes to this theory to suit the approach he had developed known as reality therapy. The first book in which Glasser described his ideas of this theory was *Stations of the mind* (1981). Powers wrote the forward to this book. The ideas that Glasser formalized were originally known as control theory but have since been renamed choice theory.

Glasser's alterations of PCT to arrive at choice theory were significant. Wubbolding (2000) describes the changes as a "major development" (p. 1) and a "distinguishing contribution" (p. 2). Specifically, he states that changing the name control theory to choice theory was a "dramatic change" (p. 2). It is those changes I wish to examine in this paper. My reasoning for examining these changes is not trivial. There is no doubt that Glasser's changes to the original theory were pervasive. PCT is virtually unrecognizable in the current form of choice theory. As I will demonstrate in this paper, the changes have been so extensive that it would be inaccurate to think of these two theories as similar anymore.

While the changes Glasser has made are undeniable, it does not automatically nor logically follow that change equals improvement. Often, whether or not a change is an improvement on whatever has

been changed will depend on the purposes of the individual experiencing the change. Changing my residence from a warm climate to a cold climate will be an improvement for me if I enjoy living in cooler places. If my wife, however, prefers hot days and the sunny outdoors then this change will probably not be an improvement for her.

Sometimes a change can actually lead to a decrease in the quality or standard that existed previously. People, for example, sometimes change from a state of mental health to one of mental illness. This change would not normally be considered an improvement. In fact, largely the reason that the services of counselors or therapists are sought is to create a change back from mental illness to mental health. Most people would consider a change in this direction an improvement. Change then can, but does not necessarily, imply improvement.

Even though Glasser used PCT as the basis for the development of choice theory, this does not mean that comparisons of the two theories are warranted nor justified. The main purpose for the comparison I am about to make is to help clarify some of the principles of *both* theories. One way of being effective in any given area of expertise is to base what you do on some theoretical principles. Many of our greatest inventions were arrived at through the application of the principles of robust theories. Even when working with other people in a counseling or educative capacity, using theoretical principles to inform your practices can add a structure and coherence to your work that might not otherwise be there. Glasser seems to acknowledge the utility of this approach when he describes choice theory as providing “a framework for reality therapy” (Glasser, 1998, p. 116).

Of course, the assistance you find in the principles of any particular theory will depend partly on how successful the theory is. Many people nowadays would consider Freud’s theories of personality to be inadequate and would attribute many of the shortcomings of traditional psychoanalysis to the theory that informs this practice. I say “depend partly” because the adequacy of the theory is only part of the equation in terms of what you will or will not find helpful. The other part of the equation is your own individual intentions or purposes. If you are simply interested in finding out about different ways that the notion of personality has been conceptualized throughout history then Freud’s accounts will provide a wealth of valuable information. If, however, you

wish to learn some theoretical principles so that you can better understand the human condition and if, in your learning, you wish to form hypotheses from the principles of the theory that you can test in order to further your understanding, then Freud’s theories will be of very little use. They are simply not that kind of theory. To some people, however, understanding things in this way and forming and testing hypotheses are not important.

Some people may not even have considered that theories can differ in kind or quality. This is one of the notions that I intend to introduce in this paper. As explained in the paragraph above, the success or otherwise of any theory will be determined by the type of explanation that individuals require for the particular purposes they have in mind. If you want to construct an historical account of the development of theories of personality then Freud’s explanations will successfully provide you with useful information. If you are interested in forming testable hypotheses about internal, stable, individual characteristics then the explanations Freud has provided will not suffice.

I am assuming in this paper that a theory is an explanation of *something*. Theories in the physical sciences, for example, are typically explanations of phenomena in the natural world. Many theories in the life sciences are not about phenomena as discrete as events and objects that occur in the natural world but they are typically about some kinds of phenomena nevertheless. When discussing theories then, it seems to make sense to consider how well or how successfully the theories explain the phenomena they describe. This is the sense in which I use the term “successfully”. Other people might use different criteria for comparing theories. When drawing a distinction between PCT and choice theory, for example, Wubbolding (2000) refers to PCT as being “highly theoretical” (p. 10). I am unsure of what the term “highly theoretical” means. Does it mean that somehow choice theory is less theoretical than PCT? Again, what would “less” refer to in this instance? In this paper my criterion for considering theories is how successfully they explain what it is they are theories about.

The criterion that I am suggesting here that could be used to judge the success of a theory is how accurately it explains a particular phenomenon. Once again, people are likely to have different standards about how accurate they consider a theory to be. There may be a point, however, at which some consensus could be reached about *this* theory being more accu-

rate than *that* theory. By way of analogy it is possible to imagine that you could observe two athletes running and express a preference for Jack's style of running over Brian's style of running. Brian, however, might be able to run measurably faster than Jack. You could recognize perhaps that the speed of the athletes was something that could be judged independently of your preference for running style.

The accuracy of a theory then is no guarantee that all people will favor the more accurate theory. An accurate theory will only be favored by people who believe accuracy is important. People may be able to recognize that one theory is more accurate than another but still prefer the "style" of the less accurate theory. A theory that can be tested might be considered a more accurate theory than a theory that can not be tested. Using Freud again as an example, there is really no way that we could test whether someone had an id or an ego. These concepts therefore might contribute to Freud's ideas being considered less accurate than another theory from which testable hypotheses could be formed.

As I have already mentioned, however, acknowledging that a theory is more accurate than another does not necessarily imply that the more accurate theory will be the more desirable. There seems to be no way of escaping the notion of individual purposes. It is your own expectations and attitudes that will determine whether or not accuracy is an important criterion for you. Practically, a more accurate theory might have greater explanatory power than a less accurate theory. Also, a more accurate theory may provide more avenues for testing and more rigorous guidelines for modifications than a less accurate theory. A broader scope of explanation, testing, and modification, however, may only be important to someone who is interested in improving their current level of understanding in the belief that this might help them to be more effective in the work that they do. People who are relatively satisfied with the work they do may find little benefit in taking the time to learn a different theory. For people who are interested in improving how effective they are with others, however, the scenario might be different. To assist in improving your practices it might be advantageous to be familiar with a theory that explains more rather than less, and that can be tested and modified by anyone who takes the time to learn how this might be done.

In writing this paper I am undoubtedly expressing some of my own biases. In a professional capacity, for

example, I am interested in the most accurate theory that I can find. While I enjoy reading about many different explanations of various phenomena, when I select a theory to inform my practice it is the degree of accuracy of the theory that I use as my benchmark. I readily accept that other people will have different criteria and for these people I believe I have little to offer in this paper. If it is not important to you which explanations you inform your practices by, or if you use a criterion other than accuracy by which to select a theory, then there is little point in reading any further. I firmly believe that the physical sciences have demonstrated to us the power of accurate theories. In principle I see no reason to believe the life sciences should be any different. I am proposing that people with more accurate understandings of the work that they do are able to be ultimately more effective than people with less accurate understandings.

The point of this paper then is not to deny the efficacy of reality therapy. Reality therapy is, and remains, a respectful, humane, and effective way of working with troubled people. It is practiced by many talented and well trained people. It incorporates a variety of procedures and strategies and is a tremendously creative and individualized approach to helping people live more effective lives. If, however, choice theory is not an accurate theory, then it may be the case that reality therapy practitioners are not achieving their results for the reasons that they think they are. If, for example, it could ever be convincingly demonstrated that people did *not* have quality worlds in their heads, then it could not be the case that people experienced benefits in reality therapy due to the effect the procedures have on quality worlds. In this instance, there would have to be a different explanation for the results that were observed. If the benefits experienced through reality therapy were deemed to be valuable, then in order to increase the likelihood that these benefits would occur more frequently, would it not be necessary to have a more accurate understanding of how the benefits were occurring? It is for the purpose of improving our understanding of what we do that I am suggesting a comparison of choice theory and PCT might be worthwhile. A greater understanding of what we do might be useful if we want to improve what it is we do.

I am suggesting in this paper that reality therapy might not work for the reasons that are currently proposed. This notion will have no relevance for people who are currently as effective a practitioner of reality therapy as they want to be. For people who wish to

improve their effectiveness however what I write may have some utility. If the theory you base your practices on is limited in its accuracy or scope of explanation then these principles will only be of limited assistance in helping you become more effective at what you do. So that you might repeat your successes more often, it would be useful to base your practices on a more accurate theory.

In this paper then I will examine the differences between choice theory and PCT and suggest what some possible implications of these changes might be. When considering information on choice theory and reality therapy I will refer mostly to two sources. These are *Choice Theory* (Glasser, 1998) and *Reality Therapy for the 21st Century* (Wubbolding, 2000). I am assuming that these books have the most up to date information that will be relevant for my purposes. In the forward of *Reality Therapy for the 21st Century*, for example, Glasser describes Wubbolding's (2000) book as "the complete and definitive book on the subject" (p. xi).

When considering PCT I will draw heavily from two books by Powers: *Behavior: The control of perception* (Powers, 1973) and *Making sense of behavior: The meaning of control* (Powers, 1998). I am aware that other sources of information exist for both theories and also for reality therapy. The books mentioned, however, provide comprehensive accounts of these topics and have all the necessary information I require for my task.

To begin with, it might be useful at a general level to consider how PCT and choice theory were constructed as individual theories. I have already mentioned that one aspect of theories is testing and development. That is, how are theories constructed and how are they modified if any modifications are necessary? Since I am not reporting from Glasser or Powers directly, what I am about to suggest should be considered my interpretation of the various decision making processes that may have occurred. While these comments are hypothetical there is some evidence for what I am about to suggest in the sources I have mentioned above.

Choice theory seems to have been developed from the ideas, logic, and intuition of William Glasser. There is no evidence that I can find of any formal testing of the major concepts in choice theory such as needs, quality worlds, scales, or filters. Rather, there is evidence that the way the theory was constructed was based on the ideas that Glasser had formed. When

Glasser (1998) discussed creating a new psychology, for example, he states that one of the criteria is that the new psychology "must be easy to understand, so it can be taught to anyone who wants to learn it." (p. 5). This seems like an unusual standard to introduce when constructing a theory. Does it seem likely that Newton or Einstein, for example, would have considered ease of understanding to be an important criterion in the construction of their theories? Throughout the sources I have mentioned (Glasser, 1998; Wubbolding, 2000) there is much evidence to indicate that choice theory is a summary of Glasser's own personal ideas and beliefs. Statements such as "I believe" are common and when discussing his reasoning for changing the name from control theory to choice theory he states "I always disliked the name of the theory" (Wubbolding, 2000, p. 58). Again, personal likes and dislikes seem to be an unusual criterion for making decisions about theory building.

Perhaps the clearest example of Glasser's own personal opinions influencing his decision making is in the concepts of needs. The concept of needs in choice theory is pre-eminent. Glasser is, in fact, in good company when he discusses the concept of needs. Mentioning just a few of the authors who have written about the needs concept may help to illustrate just how popular the idea of needs is. James (1890), for example, used the idea of instincts as part of his explanation of human behavior. Among the human instincts that James outlines in *The principles of psychology* (1890) are "emulation or rivalry", "play", "curiosity", "sociability and shyness", and "love" (pp. 409-439). These names seem like they could be capturing similar ideas to Glasser's (1998) needs of "power", "fun", and "love, loving sex, and belonging" (pp. 33-41). Murray (1938) lists about 40 different needs and Maslow's (1954) hierarchy of needs is familiar to many people. At a more specific level Jones and Jones (1995) describe 12 academic needs. For a more detailed chronology of the history of the needs concept see Bourbon (in Ford, 1999).

Throughout history then the idea of needs has been described, discussed, and reinvented. The names and numbers often change but the underlying idea of an internal "something" driving, generating, producing, or motivating our behavior is common. Even in Glasser's own work, changes in the number of needs is evident. In 1965 Glasser described two psychological needs; the need to love and be loved, and the need to feel worthwhile to self and others (p. 10). He also

referred to three physiological needs: food, warmth, and rest (p. 9). Later however Glasser (1984, pp. 5-18) claimed that there was one physiological need and four psychological needs. At this stage it didn't seem essential to Glasser that he specify the number or names of the needs. He stated "It is not important to the thesis of this book that I establish with any certainty what the basic needs are that drive us." (p. 16).

By 1998 even though Glasser described four psychological needs and one physiological need he claimed that the love and belonging need had both a love component and a belonging component. People could have different "strengths" of each of these components (p. 104). If this is the case should each of these components be considered a separate need? Furthermore, Glasser in this text described the physiological need as encompassing things such as risk taking (p. 102) and financial spending habits (p. 94). Since risk taking and financial spending could be considered more psychological than physiological, should the survival need now be considered another psychological need in addition to the other four? Wubbolding (2000) adds support to this notion when he mentions the "five psychological needs" (p. 83) in the context of conducting therapy. Later, however, Wubbolding lists the psychological needs as "belonging, power, freedom, and fun" (p. 110) which seems to support Glasser's belief of four psychological needs. Wubbolding (2000), however, also includes terms such as "relationships", "involvement", "achievement", "recognition", and "fame" in a table (p. 15) under the heading "relevant needs" so I am unclear as to whether these are extra needs (as they are called) or simply sub-components of the original needs.

Let me emphasize at this point that I am not questioning Glasser's right to adapt and change his theory. Many theories undergo modifications to their original form during their development. What I am questioning here is the *method* Glasser used to arrive at the changes. The reason for the changes that have occurred generally in the number of names of these internal forces, drives, or needs may be that there is no scientific evidence for the existence of any of them. By "scientific" I am referring to evidence that has been produced through experimentation. Specifically, Glasser (1998) provides evidence for a lack of experimental verification when he states "I believe that some of these unknown genes provide a basis for our psychology ..." (p. 27). Glasser (1998) may well be right but at this point in time we are relying on

his beliefs rather than information obtained through scientific experimentation. Glasser (in Wubbolding, 2000) restates the importance he places on his beliefs when he says "By 1996, Powers and I had major disagreements. He didn't believe in the basic needs ..." (p. 58). It seems to be the case then, that the only evidence available for the existence of five basic needs is Glasser's own personal logic and intuition. Logic and intuition certainly have their place in theory building. In many scientific approaches, however, the creation of ideas through logic and intuition would be regarded only as the first step in building a theoretical explanation of any particular phenomenon.

Perhaps this is a good place to provide the first direct comparison between choice theory and PCT. In PCT, decisions about what form the theory should take or what should or should not be included in the theory are made through testing. Essentially, the decision making process in PCT relies on model building (Powers, 1973, p. 10). When PCT scientists have an idea about the way something works they build a model of the thing they're attempting to explain and then observe what the model does. If the model is able to accurately reproduce the phenomenon they are attempting to describe these scientists would assume that they had a reasonable explanation of the phenomenon. Powers (1973, p. 73) puts it this way "we are aiming here not for a sufficient model, but a correct model – one that not only accomplishes the same result that the human being accomplishes, but does it in the same way." This means that if someone has an idea about something that should be added to the theory or that the theory should be otherwise changed in some way, then he or she would need to build a model which incorporates the changes and demonstrate that the model performs better (that is, more like the thing that is being explained) with the changes than it does without them. The only criterion is "how closely does the performance of the model match the performance of what I am explaining?" Regardless of how much the individual believed in his or her idea, the idea would be discarded if it did not improve the performance of the model. This means that anyone is able to contribute to the development of PCT. Anyone who is interested in learning about this theory is welcome to test it and suggest changes. The only criterion is that the changes you suggest improve the performance of the model in terms of its ability to duplicate the phenomenon it is a model of.

The fact, therefore, that Glasser thought changes to PCT were appropriate could never have been a problem. PCT theorists welcome and are excited by changes that improve the model. Improvements such as these can often clarify important aspects of behaviour that were previously misunderstood. Glasser was certainly welcome to suggest changes to PCT. In fact, given that Glasser has degrees in chemical engineering, clinical psychology, and psychiatry (Glasser, 1965) he would be well credentialed to participate in the model building activities that are undertaken to test and improve PCT. The problem is not that Glasser has suggested changes, the problem lies in the *kind* of changes Glasser suggested and his criteria for suggesting them.

The diagrams provided to explain both PCT and choice theory are good examples of the difference between a theory where the standard is accuracy and a theory where the standard has to do with personal beliefs and ease of understanding. In PCT a diagram such as the one provided by Powers (1973, p. 58) is regarded as the first stage in building something that works. Every box in the diagram “represents something that can be objectively determined by normal scientific procedures.” (Powers, 1973, p. 57). In this regard, Powers’s (1973) diagrams can be thought of as analogous to a plan for a house. The purpose of a housing plan is to outline the specifications of a structure that can be built. When drawing a housing plan there are obvious conventions that need to be followed in terms of the symbols that are used to represent certain physical features. Also, the person drawing the plan is constrained in particular ways as to where he or she places certain lines or symbols. Drawing a window on the floor, for example, would not make sense to someone who was charged with the responsibility of building a physical structure from the drawing. Since building a physical model is the ultimate intention of a PCT theorist, they too are constrained in certain ways with the types of diagrams they draw. They are not free, for example, to place boxes and arrows wherever they like. They are only able to place boxes and arrows in ways that can be translated into building something that works.

These kinds of constraints, however, do not appear to exist for Glasser’s diagram. It is doubtful that the symbols and figures used in this diagram represent physical objects. Rather, decisions about the kinds of figures to use and also which colors to include seem to have been guided more by principles of aesthetics than standards of accuracy. Similarly a person

who wished to draw a picture of a “dream house” or a futuristic dwelling and had no desire to actually build the structure would be much less constrained in what he or she drew than a person who wanted to be able to live in the structure that his or her drawing represented.

Again, whether or not these differences are important to you will depend on your own preferences. Is a standard of building something that works better than a standard of personal beliefs or aesthetics? There is no objective way of answering that. It is highly likely, however, that phenomena will be better understood by learning about models that work than they will by learning about someone’s personal beliefs.

This is a profound difference between the two theories. Why does PCT have components such as reference and perceptual signals? Because the inclusion of these signals into the model makes the model perform more like the phenomenon that is being explained than it would perform without these signals. Conversely, we could ask why does choice theory have components such as basic needs? The answer is because Glasser believes there are basic needs. Regardless of how sensible this belief may be, until it is subjected to testing through a procedure like model building, it remains a personal belief. History is replete with logical and intuitive ideas that were found inadequate and inaccurate when subjected to testing for verification. Is the idea of basic needs one of these inadequate or inaccurate ideas? At the moment we have no way of answering this question.

The differences I have just described relate to another subtle yet just as significant difference. In choice theory the words that are used to teach the theory are an important consideration. I have already illustrated how Glasser (1998) believes that the theory must be easy to teach and easy to understand. Glasser (in Wubbolding, 2000, p. 58) also expressed a clear dislike for the term control “I always disliked that name of the theory, ‘control theory’.” Also, Glasser and Wubbolding (1995, in Wubbolding, 2000, p. 165) demonstrate the importance they ascribe to the correct words when they state “In formulating the principles of reality therapy, a conscious decision was made to use easily understood words.” Consequently choice theory and reality therapy are described with words that are familiar and easy to listen to such as “basic needs”, “quality world”, “pictures”, “wants”, “scales”, and “behavioral suitcase” (Glasser, 1998; Wubbolding, 2000).

In PCT, however, the name of the term is of secondary importance compared to a description of how it functions in the model. Calling something a “comparator”, for example, is not as important as being able to describe that this is the place where the reference signal is compared to the perceptual signal and an error signal is produced. It is the place where “ $r - p = e$ ” takes place. This kind of description is almost entirely nonexistent in choice theory. One exception occurs when Wubbolding (2000, p. 159) explains the relationship between actions and feelings and claims that “changing actions = changing feelings (CA = CF).” Elsewhere, however, Wubbolding (2000) indicates that the relationship between actions and feelings and changes in the two might not be equal. He states “It is as though a person has a range of behaviors layered in a suitcase with a handle attached to the *action* component. Beneath are *thinking, feeling, and physiology*. Grabbing the suitcase by the handle is the best way to move it from one place to another.” (p. 108), “The entire suitcase is controlled by the handle ...” (p. 124), “... feelings are not discussed as causes of actions ...” (p. 126), and “feelings will change as a direct result of a change in actions.” (p. 126). These descriptions by Wubbolding (2000) seem to indicate that CA = CF is an incorrect way of conceptualizing the problem since the equation in this form implies that both sides are the same. As with the equation $2 + 2 = 4$, you could use either side of the equation to get to the other. Wubbolding (2000), however, has stated that you can use the CA side to get to CF but not the other way around. Hence it would appear to be a misrepresentation to depict this relationship with an “equals” sign.

This kind of discrepancy would be far less likely to occur if a model building approach was taken. In a model building approach it is necessary to describe the function of each component of the model and how each component relates to other components. In this approach a simple relationship like CA = CF could be clarified. This is the approach that is taken in PCT. In PCT, then, while accurate and clear communication is considered important, accuracy and clarity are achieved by specifying concepts and relationships through model building. Once people understand the function of a component of the theory and how it operates in the model then it doesn't matter so much what it is called. When Glasser (2000, in Wubbolding 2000) alluded to Powers not believing in needs it may well have been that Powers

simply requested a demonstration of how something called a “need” functioned and how inclusion of this particular “thing” would improve the performance of the model before he felt it necessary to consider it as an important concept.

While the way in which these theories were constructed and developed is an important difference and has direct implications for other differences that exist, it may not be the most dramatic difference. Perhaps the most significant difference lies in what they are both theories *of*. It is this difference that I will now address.

At a very general level it could be argued that both theories are theories of what people *do*. It is at this point, however, that the similarities end. What people do according to choice theory is behave, and this behavior is chosen. As Glasser (1998) describes “we choose *everything* we do” (p. 3), “we can only control our own behavior” (p. 98), and “we choose all our actions and thoughts” (p. 4). In Wubbolding (2000, p. 31) Glasser states “*all we can do from birth to death is behave, that we choose all behavior that attempts to satisfy our needs, and that all behavior should be considered total behavior*. Total behavior is always made up of four components: *acting, thinking, feeling, and the physiology* that accompanies our actions, thoughts, and feelings.”

In choice theory then, perhaps not surprisingly, the process of “choosing” seems to be of ultimate importance. Despite this, it is difficult to find an unambiguous definition of the term “choice”, nor of the process that this word label might be representing. Wubbolding (2000) describes choice as “a behavior that directly effects the external world.” (p. 21), and also states that choice means “that the behavior is generated from within the person for the purpose of need satisfaction.” (p. 67). Choice theory therefore, seems to have been developed to promote the idea that the origins of behavior are internal. Wubbolding (2000, p. 165) reflects this when he states “‘Control theory’ became ‘choice theory’ in order to emphasize the internal origin of human behavior and because the word ‘control’ has too many negative meanings and is easily misunderstood.”

The central idea in choice theory seems to be that behavior is internally generated. Glasser (1998) in fact discusses creating an internal control psychology. He says “Choice theory is an internal control psychology; it explains why and how we make the choices that determine the course of our lives.” (Glasser, 1998, p. 7).

The idea of control, however, still seems to be present in Glasser's teachings despite the change in name and it is clear that in choice theory it is behavior that is controlled. References to control of behavior are common as are notions of behavior being generated or driven (e.g., "We have almost total control over our actions and thoughts...", Glasser, 1998, p. 74, "... the only behavior we can control is our own.", Wubbolding, 2000, p. 66, and "... all persons generate behaviors in order to fulfill human needs.", Wubbolding, 2000, p. 67). In summary, choice theory seems to assert that humans control their behavior. The behavior is generated in order to satisfy internal needs.

In constructing choice theory then, Glasser can be thought to have preserved the status quo of the life sciences with regard to notions about behavior. Control of behavior is a common axiom throughout modern psychology. The only difference between separate schools in psychology may well be the proposed causes of the observed behavior. As is generally accepted, behaviorists posit that the causes of behavior are external to the organism. Cognitivists, on the other hand, point to internal factors as the causes of behavior. Choice theory fits comfortably into the cognitive school of psychology.

Choice theory also maintains the status quo of psychology with its notion of causality. It is clear that choice theory is based on the notion of linear cause and effect. Statements such as "The answering of the phone as well as healthy or unhealthy adult behavior are both fundamentally *caused* by a current unmet need and more proximately by specific wants." (Wubbolding, 2000, p. 1), "behavior is seen as internally caused" (Wubbolding, 2000, p. 67) and Wubbolding's (2000) description of "wants as the proximate trigger for all behavior." (p. 130), seem to clearly indicate that behavior is considered to be at the end of a cause/effect sequence with some internal force being at the beginning of the sequence.

In summary, choice theory generally appears to explain behavior as being internally caused by five needs. I say generally because there are some deviations from this as when Wubbolding (2000) writes that "behavior serves a purpose, which is to close the gap between what a person wants and what a person has at a given moment." (p. 21) and "behavior, including actions, thinking, and even feelings such as loss and grief, originate in the gap or difference between what a person wants and what one receives from the world." (p. 168). Here then, it appears that it is "the gap" that

is the generator of behavior rather than the need. I will return to this point later but for now it seems sufficient to conclude that in this instance the only change that has occurred is in the location of the internal stimulus. The fundamental notion of behavior being at the end of a linear causal chain has been retained. According to choice theory then, what people do is behave and this behavior is caused by some internal force such as a need or a "gap".

PCT represents a radical departure from the ideas outlined above. The principles of PCT are unusual and initially counterintuitive. PCT does not fit anywhere into existing schools of thought regarding behavior. For these reasons it can be a difficult theory to understand. Once understood, however, if accuracy of understanding is important, the tenets of this theory are compelling and well worth the effort taken to understand them.

At its core PCT proposes that what living things do is control. Life, in fact is considered to be a process of control. Control is the natural phenomenon that occurs when constancy is maintained in the midst of change. Powers (1973), defines control as "Achievement and maintenance of a pre-selected perceptual state in the controlling system, through actions on the environment that also cancel the effects of disturbances." (p. 283). All living things from self-replicating molecules to human beings control. To live is to control. Keeping your trees pruned is a control process. Adjusting the water temperature in the shower is a control process. Maintaining your physical appearance is a control process. Building a career you are proud of is a control process.

Whilst developing PCT through the process of model building Powers discovered that when living things control, what they control is an internal signal. In PCT these internal signals are called "perceptions" (Powers, 1973, p. 286). What living things do then is control perceptions. This process of perceptual control involves perceiving, comparing, and acting (Powers, 1998, p. 3). In order to control an internal perceptual signal Powers realised that the means by which the signal was created had to vary (Powers, 1973, 1998). That is, the output of the living thing – what traditionally might be called behavior – must be allowed to vary in order to keep the perception right. "Right" in this instance is determined by another internal signal called a reference signal. The process of control then involves varying behavioral output in order to keep perceptual input matching the reference signal.

According to PCT then, *behavior is not controlled, perceptions are.*

This simple notion has resulted in the isolation of PCT within the crowd of theories of living things. There really is no other explanation quite like it. As far as the PCT story goes, living things do not control or regulate their behavior. They don't even choose their behavior. All living things do is control their perceptual signals which are the *effects* of their behavior. The only things that living creatures ever know or are ever aware of are their own individual perceptions. Living things can never know a world beyond their perceptions. While we might accept that there is a common "something" out there beyond our senses we only ever know it by the way it is represented in our perceptions. We can never even act on the external world. All we can act on are our perceptions.

Wubbolding (2000), on occasion, seems to indicate some appreciation of the idea that we only "know" perceptions. He states "perceptions *are* our inner reality" (Wubbolding, 2000, p. 24) and "... we only know the world through our perceptions ..." (Wubbolding, 2000, p. 134). At other times, however, he writes "Control refers to aligning the external world with what we want ..." (Wubbolding, 2000, p. 2); "We fulfil our wants in the real world ..." (Wubbolding, 2000, p. 19) and "In seeking to control our behavior and to shape the world around us ..." (Wubbolding, 2000, p. 24). The dissonance created by these statements is distinct. If we only know the world through our perceptions then our perceptions *are* the world. We do not, therefore, align the external world with anything because we cannot access the external world. If we are able to access the external world and align it with something then it is clearly not the case that we only know the world through our perceptions. This kind of incongruity may not have arisen if choice theorists had relied on model building rather than ideas and beliefs to develop their theories.

Earlier I mentioned a similar discrepancy when in choice theory it is discussed on some occasions that behavior is caused by needs and on other occasions that it is caused by a gap between what we want and what we have (Wubbolding, 2000). Again, this kind of inconsistency could be examined through a model building approach. Is behavior caused by needs, is it caused by the gap, or is it caused by a combination of the two? By specifying needs and gaps in such a way that models could be built a choice theorist would have the opportunity to clarify what seems to be an important

issue. If behavior is caused by something it would seem necessary to be clear about what that something was.

Another disparity of ideas is demonstrated when it is explained what a control system does (Wubbolding, 2000). When explaining the origins of choice theory, Wubbolding (2000) claims that control theory "states that the human brain functions like a control system such as a thermostat, which seeks to regulate its own behavior (furnace or air conditioning) with the desired result of changing the world around it." (p. 10). Once again, if Wubbolding (2000) had explored this idea with a working model he would have discovered the inaccuracy in what he writes. Thermostats do not regulate nor control their behavior. Thermostats have the equivalent of a perceptual signal which is a continuous representation of the temperature that is being sensed. It is this signal that the thermostat regulates or controls. It *varies* its output in order to keep the signal that represents the sensed temperature matching some internally specified temperature. By doing this it controls this internal signal. The heating or cooling of the room occurs as a *by-product* of the thermostat controlling its own internal signal. A thermostat that controlled or regulated its behavior in terms of its output would not "work" in the way that we know thermostats to work. Living things, and objects that mimic living things, control their perceptions *not* their behavior. The behavior that we observe in others results as a by-product of people controlling their internal perceptual signals. Behavior *is* the control of perception.

A simple activity may demonstrate these concepts to you. While reading these words take the time to clench one of your hands into a fist Did you do it? This would be regarded by most people as a simple action that any able-bodied person could do in a jiffy. Now for the interesting part. Think carefully. *How* did you go about creating the fist that you now see before your eyes? I'm not asking you to make guesses about neural signals and muscle fibers. I'm only asking you to describe your experience of "fist making". Many people say when they do this activity that they just know how to make a fist and so they simply "do it". It can be very difficult to describe just exactly what was involved. The three aspects to control that were mentioned above, however, capture succinctly the "how" of this activity. Perception, comparison, and action.

For the purposes of clarification we could crudely classify our muscle activity as the output of our systems and our sensory information as the input to our

systems. In the example above, then, it is clear that we have no knowledge of our muscle activity *independent* of our knowledge of sensory information. From an internal perspective, a clenched fist looks a certain way and feels a certain way. It is those sights and feelings we produce in order to create the perception of “fist”. Undoubtedly there is muscle activity involved in this process, however, we do not *control* this activity. We control the sight and the feeling, and muscle activity occurs accordingly. Efron (1966, p. 492) elegantly captured the difficulties associated with maintaining the belief that we control behavior when he stated: “In the course of any action many muscles are contracted in a complex temporal sequence. We have no voluntary control over the contraction of each muscle, over the action potentials in the nerve fibers, the excitatory and inhibitory potentials at each of the millions of neural membranes, or the biophysical actions at the neuromuscular junction. We do not decide, ‘Now I will contract the triceps, then the supinator, and finally contract the biceps while relaxing the triceps.’ We do decide, ‘Now I will pick up the paper.’ Any voluntary control which we *can* be said to have over the actions of our muscles follows indirectly from the conscious choice of the *purpose* of the movement and the decision to initiate the movement. The subsequent series of automatized actions of nerves and muscles is the means by which this purpose is accomplished.”

There is strong evidence then that we do not control our behavior. While this may seem counter-intuitive at first, once the nature of living things is understood it becomes difficult to understand how the notion of behavioral control could have persisted for so long. Living things control their perceptions. Their perceptions are the only reality they know. Whereas choice theory is reported to be a theory of the functioning of the human brain (Wubbolding, 2000, p. 1), PCT is a theory of life. Anything that lives, controls. Within this process of controlling our perceptual experiences a phenomenon that we might call “choice” may very well exist. Choice, however, would be considered to be only one small facet of the totality of the experience of living. Despite Wubbolding’s (2000) claim that control theory “does not describe the role of choice in the process.” (p. 2), the situation is actually the exact reverse. PCT explains choice but choice theory does not explain control. Within a framework of PCT whatever phenomenon the word label “choice” is referring to could be tested, modeled, and more clearly understood. Within a choice theory

perspective, however, control is unexplained.

The final difference I intend to highlight concerns the notion of causality. In choice theory I have already demonstrated that the concept of linear causality prevails. As such, choice theory nestles comfortably amongst the plethora of linear descriptions in the life sciences that consider behavior to be the end result of a chain of events. PCT, however, articulates the idea of circular causality. The concept of circular causality itself is not new. Dewey (1896), for example, was perhaps one of the first to challenge the notion of the simple stimulus-response reflex. He wrote “What we have is a circuit, not an arc or broken segment of a circle. This circuit is more truly termed organic than reflex, because the motor response determines the stimulus, just as truly as sensory stimulus determines movement.” (p. 363). The contribution of PCT perhaps is to demonstrate, for what may be the first time, how circular causality occurs in living things.

The process of circular causality can be illustrated in many ways. In this paper I will use the humble eye-blink reflex to demonstrate the wonderful and peculiar relationship causes and effects have when discussed in the context of living things.

The eye-blink reflex is instructive perhaps because of its familiarity to most people. Surely many people are aware of the “reflexive” blink that occurs when a puff of air is delivered to the eye. The eye-blink reflex is easily divided into its component parts of the air puff, which is the stimulus or cause, and the eye blink, which is the response or effect. It is commonly assumed that the stimulus (puff of air) causes the response (eye blink). I use the term “assumed” because the puff causing the blink is not something that can be observed. It is certainly the case that the puff comes before the blink. The placement of one event (a puff) before another event (a blink) is not sufficient, however, to warrant labeling the first event as the cause of the second.

In fact, the puff must have some special properties for it to even be associated with the blink in the way that is commonly understood. For a start, the puff must land on the surface of the eye. This may sound mundanely obvious but it vividly illustrates the point that it is not a puff alone that comes before a blink. Delivering a puff of air to someone’s elbow, for example, will not result in an eye-blink in any systematic way.

Also, the puff of air must be delivered to an alive eye. Puffing on a dead eye or the eye of a pet rock will

not result in a blink. For a puff of air and a blink to be related, therefore, two conditions must be established. Firstly, the eye that is to blink must be alive. Secondly, the puff of air must land on the eye. When these two conditions occur, a blink will generally follow a puff of air.

Have I, therefore, identified a linear sequence of cause and effect? Hardly. I have identified two events that occur in a particular order. There are more than these two events that need to be considered, however, if the eye blink reflex is to be understood accurately. The fact that the surface of the eye is in a particular state before the puff arrives needs to be considered. Why is this important? Because the puff of air has the effect, when it lands on the surface of the eye, of drying the surface. Thus, the puff of air alters the surface of the eye. (It is only when the surface of the eye is altered that a blink is likely to follow. That is why the eye must be alive, and the blink must land on the eye surface.) The blink then comes along and *restores* the surface of the eye to its original condition.

What used to be thought of as a sequence of cause (puff) and effect (blink) can now be understood another way. The phenomenon that is actually observed is a blink opposing the effects of the puff. In this way, it could be said that the effect (blink) causes the effect of the cause (puff) to be eliminated. Sounds confusing doesn't it? Such is the case when causes and effects are imposed on living things. The identification of either a cause or an effect just depends on where you start and stop your observations. The eye surface is in a particular state. A puff of air causes a change in the eye surface. The change in eye surface causes a blink. The blink causes a change in the eye surface. The sequence of causes and effects began with the eye surface and finished with the eye surface. A change in eye surface, therefore, is both the cause and the effect of behavior. The loop is closed.

Let's try it another way. Rather than something (puff) causing something else (blink) to occur, what we have is a living thing in a particular state (a creature whose eye surface is moist), something disturbing that state (a puff of air dries out the eye surface), and the living thing acting to restore the state to its original condition (a blink restores that condition).

Why is an analysis of this kind important? Well, apart from being an accurate account of an observable act, there are some other reasons I can think of. Firstly, it is clear from this description that it is not the puff of air that causes the blink to occur. Nor is it

the particular state of the eye surface that causes the blink. It is *both* the condition of the eye surface and the puff occurring *simultaneously* that result in a blink. One can therefore not look solely at either internal *or* external factors to explain observable actions.

Also, it is evident from this example that the particular actions being discussed are not crucial from the perspective of the behaving creature. In the example of the eye blink "reflex" what is important is the moisture level of the eye surface *not* the blink. There are probably numerous ways to maintain an appropriate moisture level on the surface of the eye. If someone's ability to blink was impaired it is not hard to imagine that he or she would invest in eye drops or perhaps a water spray to keep his or her eye surface moist. Also, to prevent puffs of air from reaching the surface of the eye it is easy to see that someone could turn his or her head, or put his or hand over his or her eye, or don sunglasses. The point is, to understand the person's behavior it is important to gain some appreciation of what *effect* he or she is trying to produce. Helping the person to become a better blinker in the absence of continued air puffing would probably become irritating to the person.

From a PCT perspective then, the notion of causes and effects is replaced by the notion of the maintenance of perceptual experiences in preferred states. Someone who was helping other people and who did not understand PCT might try to identify and manipulate either internal or external effects in order to produce particular behavioral effects. A helper who understood PCT, however, would seek to understand the states that the people he or she was helping were attempting to create and maintain. Furthermore, the helper would also attempt to clarify any problems the people were experiencing in keeping perceived experiences in preferred states and the helper would endeavor to assist these people to create the experiences the people intend.

Although the eye blink sequence may sound simple, from a PCT perspective, the processes involved in this simple behavior are exactly the same processes that occur for any behavior. The particular state of the eye surface is specified internally. This internal specification functions the same way that more complex specifications function such as the specification about the state a loving relationship should be in. The puff of air alters the state of the eye surface in the same way that your lover being late for a romantic dinner might disturb your perceived state of a loving relationship.

Blinking has the effect of restoring the state of the eye surface, and calling your lover's mobile telephone may provide you with information that will restore the state of your loving relationship to its previous condition.

There is perhaps another opportunity at this point to compare specific aspects of the two theories. Earlier I mentioned the term "reference" which in PCT is an internal signal that specifies what is to be perceived. The reference signal can be thought of as a goal or perhaps an expectation or specification. Again, what is important in PCT is not what it is called but how it functions. People may, at times equate the reference signal in PCT with the concept of needs in choice theory. While these concepts may sound similar, however, they have very different functions as they are explained in the two theories. In PCT a reference is a specification about what is to be experienced. Powers states "the final effect produced by one of these causal loops was determined not by the environment, but by something we are calling a reference condition, something inside the person that defines a particular state of a perception and sets it up as a target or an intention against which perceptions are to be matched." (Powers, 1998, pp 15-16). In PCT then, if a reference generates anything at all it generates a perception. This is very different from the choice theory concept of needs generating behavior.

Once again, the differences between the theories are clear. In PCT the role of a reference is defined in terms of how it functions in the model. Understanding how a component functions in the model is considered important. In choice theory, however, how a need actually goes about the business of generating behaviour is not articulated. How are needs functionally related to quality worlds and how are quality worlds functionally related to the behavioral car that is used in choice theory to represent total behavior? These relationships are not specified in choice theory. Perhaps if these relationships had been explored through a working model, the fallacy of linear causality and the implications of this fallacy for any explanation of living things would have been discovered.

The simple notion of circular causality represents a major departure for PCT from other explanations of living. Living things control. That is the beginning, the middle, and the end of the story. When living things learn, they are learning to control perceptual experiences. When living things flourish, it is because they control perceptual experiences successfully. When

living things flounder, it is because of disruptions to the control of perceptual experiences. Human problems are problems of control.

What then are the differences between choice theory and PCT? Choice theory is a description of the beliefs of one man. PCT is a set of principles derived through model building. Choice theory requires you to believe or to accept on faith the principles it espouses. PCT requires you accept the results produced by working models and invites you to contribute to the development of the theory by building models of your own to test. Choice theory contends that what people do is control or choose their behavior. Behavior is generated in order to satisfy five basic needs. Behavior is caused by unmet needs. Causality in choice theory is linear. People act on the external world in order to meet their needs. PCT posits that what living things do is control their perceptions. Behavior is one part of a continual process of simultaneous causes and effects. Causality in PCT is circular not linear. Behavior occurs as a by-product of living things creating and maintaining intended perceptual experiences. Living things do not know nor have access to a world beyond their perceptions.

This is a summary of my current understanding of the differences between the two theories. There may be more differences than those I have listed. My intention was to highlight the differences I consider to be the most salient and the most relevant for practitioners. Do these differences matter? This question can only be answered by individual readers depending on how clear they want to be about what they do.

According to PCT, however, successful reality therapists are not successful because they have helped people achieve greater control of their behavior. Wubbolding (2000) states for example, "When clients gain clear, more effective, and explicit control of actions and thinking, all components . . . work more harmoniously." (p. 108). To the extent that reality therapists help clients experience harmony it is *not* because these clients have gained "clear, more effective, and explicit control of actions and thinking". People could not control their actions even if they wanted to. People only ever control their perceptions. To the extent then that people experience harmony it is because they are successfully controlling perceptual experiences.

To return then to the issue of whether or not the differences matter, the answer can best be answered perhaps by another question. How important is it to you to know what you are doing? If PCT is an

accurate description of the activity of living then reality therapists do *not* help people change behavior or satisfy needs. Is it important to you to know what you are *really* doing when you are doing reality therapy? What you are really doing from a PCT perspective is helping people control perceptual experiences more effectively. Knowing what you are really doing when you are doing reality therapy might help you become better at doing it, if that's what you want to do. Rather than chasing rainbows by assuming you are changing behavior or satisfying needs, you might seek to understand the perceptions the people you work with have difficulty controlling. With this understanding you might spend time exploring ways you can help these people control their perceptual experiences more satisfactorily.

This paper has been my attempt at clarifying some of the differences between choice theory and PCT and exploring the implications of these differences for practitioners. It has not been my intention to criticize or judge but merely to illustrate. In some ways, perhaps the most defensible conclusion to reach is that it is not legitimate to compare PCT and choice theory in their current forms. PCT is a description of the phenomenon of control that is expressed in precise, quantitative terms that allows testing through model building. Choice theory is the articulate and engaging expression of one man's ideas about the way in which behaviour is produced. Many people would surely agree it would not make sense to compare a well-written adventure novel with a report on the discovery of penicillin. In the same way then, it seems reasonable to conclude that the disparate forms in which PCT and choice theory are expressed severely compromises any sensible comparison between the two. This conclusion, however, might not have been reached without first examining the principles of both theories.

I find choice theory an interesting account of one man's ideas about people. When working with others, however, I require more than interesting ideas. Again, this is not a criticism just a statement of personal preference. To maximize the effectiveness of the work I do I want to ensure that I am informed by the most accurate understanding available. PCT, as an explanation of the phenomenon of control that has been empirically verified through testing by model building is currently peerless in the life sciences. PCT is an elegant, articulate, and functional expression of what living things do. By understanding this theory I consider that I will be well placed to help people do

what they do more successfully should my help be requested. Perhaps just as importantly I will be able to understand more clearly what *I* am doing when I am helping people. With this understanding I may be able to do what I do more effectively as well. There may be some of you who think similarly. For those of you to whom this applies I offer this paper. It may be of some assistance to you in the work that you do.

References

- Bourbon, W. T. (1999). Perceptual control theory, reality therapy, and the Responsible Thinking Process. In E. E. Ford *Discipline for home and school book two: Practical standards for schools* (2nd ed.). pp. 147-197. Scottsdale, AZ: Brandt.
- Dewey, J. (1896). The reflex arc concept in psychology. *The Psychological Review*, 3(4), 357-370.
- Efron, R. (1966). The conditioned reflex. *Perspectives in Biology and Medicine*, 9(4), 488-514.
- Glasser, W. (1965). *Reality therapy: A new approach to psychiatry*. New York: Harper & Row.
- Glasser, W. (1981). *Stations of the mind*. New York: HarperCollins.
- Glasser, W. (1984). *Control theory: A new explanation of how we control our lives*. New York: Harper & Row.
- Glasser, W. (1998). *Choice theory: A new psychology of personal freedom*. New York: HarperCollins.
- James, W. (1890). *The principles of psychology volume two*. New York: Dover
- Jones, V. F., & Jones, L. S. (1995). *Comprehensive classroom management: Creating positive learning environments for all students* (4th ed.). Needham Heights, MA: Allyn & Bacon.
- Maslow, A. H. (1954). *Motivation and personality*. New York: Harper & Row.
- Murray, . (1938). *Explorations in personality*. New York: Oxford University Press. (1932).
- Powers, W. T. (1973). *Behavior: The control of perception*. New York: Aldine de Gruyter.
- Powers, W. T. (1998). *Making sense of behavior: The meaning of control*. New Canaan, CT: Benchmark.
- Reber, A. S. (1995). *Dictionary of psychology* (2nd ed.). London: Penguin.
- Wubbolding, R. E. (2000). *Reality therapy for the 21st century*. Philadelphia: Taylor & Francis.