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Quality of life research: interview with Professor Robert Cummins

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Health-related quality of life (HRQOL) is a fundamental concept in the field of clinical medicine and has been studied during the last years by psychologists, sociologists, economists and managers. The concept of HRQOL includes those aspects of overall QOL that can be indicated to have an impact on patients' health, either physical or psychological. Concerning the individuals, this incorporates physical and mental health cognitions, including sociodemographic factors, sexual functioning, fatigue, sleep disorders and functional status.

One of the most eminent experts in the world in the field of QOL is Prof. Robert Cummins [Professor of Psychology at Deakin University in Australia (School of Psychology, Deakin University, 221 Burwood Highway, Victoria 3125 Melbourne, Australia. E-mail: robert.cummins@deakin.edu.au)] who kindly accepted to answer our questions in the context of this special edition.

Question n. 1

Professor Cummins, your work in the past decades has made outstanding contributions to the literature in psychology covering a variety of topics related to quality of life, subjective well-being, happiness and satisfaction. What would you say are the common threads within your research, the core questions you have been preoccupied with, and how did your interest in all these topics evolve?

Answer

My interest in the whole area of quality of life (QOL) happened without any planning on my part.

Almost 25 years ago now, I was working in a small teaching college in the area of disability, when a colleague with an office next to mine casually asked if I might be interested in some collaborative research. He described it as being in the area of QOL, working with a couple of researchers from Melbourne University. I reflexively said yes!, and so my life was

changed forever.

Immediately following my impulsive decision I reflected that I had no idea what research into QOL involved. Neither did I realize at the time that I had elected to join two of the most outstanding researchers of their time in the area of subjective wellbeing (SWB).

Alex Wearing and Bruce Headey were the first researchers to publish results from a longitudinal study showing that SWB was not only surprisingly stable but that, after it was changed by some major life event, over time it tended to return to its earlier level. Their *equilibrium model* greatly influenced my thinking and led me to the idea of homeostasis theory, which I have been developing ever since.

As soon as I started to comprehend the breadth of literature that contributed to QOL research I was hooked. It not only involves many of the central constructs in psychology, such as affect theory, cognition and personality, but also seemed to have a compelling existential element. Life quality just has to be a prime concern for both individuals and nations. So, having found my mission, and with such a disparate and complex literature at my disposal, I saw the whole field as a jigsaw waiting to be assembled. Some of the pieces were already known, but not nearly enough to create a coherent picture depicting life quality. And so it was that this wonderful, endless puzzle took over my academic life.

My approach to understanding QOL was heavily influenced by basic training in psychology and physiology, with my PhD gained by studying neurological plasticity in rats. This background gave me a very reductionist approach to science, which caused much concern as I read into the SWB literature.

Two features were evident. One was that there seemed to be no empirical reference points for SWB results, and the other was complete anarchy in the area of nomenclature. I will come to this latter problem later, but let me continue here with the issue of numbers.

In physiology the data have instant and unequivocal meaning. Core body temperature should be in the range of 36.0-37.5°C, and if it is above or below that range the result signals pathology. In SWB an average satisfaction score of 17/25 has no interpretative meaning other than it is lower than a score of 20/25. I wanted to change this situation, but did not know how. So, I started to play with the most reliable data I could find in the literature, which were the mean scores from population samples. I started by creating a simple formula which converted the result from any response scale onto a standard 0-100 range. I called this new metric *percentage of scale maximum*, now referred to as *points*. Then, armed with my new device, I started converting my collection of population SWB mean scores.

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I have a vivid memory of my eureka moment. I had noticed considerable consistency in the numbers my formula was producing. Despite different kinds of measurement scales and different countries, the mean values tended to lie between 70 and 80 points. I resolved to myself that, if the next conversion from the next randomly-chosen paper also lay within this range, I would have discovered some kind of a standard. As I opened my eyes after pressing the compute button, the value was 76.5 and I screamed. Not only that, I leapt to my feet. Poor judgment.

It was summer in Melbourne and I was home alone with Puddykins, my cat, who had assumed her customary sleeping position on my lap when I was working. Due to the heat, I was wearing only underpants with a thin cotton cloth across my lap to accommodate the sleeping cat. My scream energized her escape response while my sudden verticality left her suspended in space. So with feline-turbocharged reflexes, she arrested her descent by applying all 20 claws into the only available surface – me. Another scream, this time coupled with invective. So intense was this commotion that my neighbor, on the other side of the thin terrace house wall, subsequently knocked on my front door to check if I was OK. My explanation was less than adequate.

Question n. 2

In 2000, you founded the Australian Centre on Quality of Life as a virtual centre within Deakin University. Please, give us more information about the scope of the Centre and how this foundation is associated with your scientific work.

Answer

The Centre was devised with two aims in mind. The first was to generate a focus for QOL research within Deakin. This aim has been met, with the Centre now in its 13th year of operation. We run a journal club for our students and a monthly newsletter. The main attraction of this publication is that it contains new QOL references gleaned from Current Contents. It is also received by the 450 people external to Deakin who are ACQOL members.

The second aim was to create a web-base for the distribution of research information to assist students and researchers. This aspect has been highly successful. If the search term *quality of life* is typed into Google, it recognizes over 1000 million pages. The site listed on the first page after Wikipedia is the ACQOL. The reason is its popularity. Last year the ACQOL received over 1.6 million hits, which is remarkable for a site that could only be attractive to people with a research interest. The most-used resources are the Bibliography, which lists most ISI identified references over the past 20 years, and the Instruments page, which provides a brief description of some 1200 instruments purporting to measure QOL in some form or other.

But perhaps the activity of the centre of which I am most proud is hosting the International Wellbeing Group. Since the Group was conceived by my myself and Dr Anna Lau, in November 2001, the membership has been slowly assembling. The aim of this collaborative network is to develop the Personal Wellbeing Index (PWI) as a cross-culturally valid measure of population subjective wellbeing (SWB). As of April 2013, the Group involves over 140 researchers from more than 50 countries and provinces.

The Group comprises three types of members. There are Primary Researchers who have the aim of generating normative population data in their own country. There are Project Researchers, who are using the scale for some specific purpose. And there are expert Discussants, who share all correspondence and also advise on continued development of the PWI instrument. This process of controlled evolution is central to the Group's activity and the 5th edition of the PWI manual is currently being assembled.

At this stage the PWI has been translated into over 20 languages and seems to perform in a fairly consistent manner within different cultural settings. Over 140 publications using the PWI have been produced by members and these have contributed much understanding to how the scale behaves. We always run a symposium on the PWI at the International Society for Quality of Life Studies international conference.

Question n. 3

What projects have you been involved with in the past and what kinds of findings have you had?

Answer

My first exposure to research was as an undergraduate in the department of physiology at the University of Queensland. While doing my BSc in the late 1960s, I joined the lab of Professor Otto Budtz-Olsen and immediately collaborated with an outstanding student, Roger Walsh, who was simultaneously enrolled in medicine and a PhD. *Budtz*, as he was called, gave us the run of the lab and the hot neurological news at the time was the biological transfer of memory. So we tried to replicate published studies which involved training rats to avoid a dark box, then extracting a certain type of protein from their brains, and injecting this extract into naïve rats. It did not work and the line of research was subsequently shown to be invalid, but it was great fun and hooked me into the research process.

Our next efforts were directed at another topical research area known as *environmental stimulation*. A substantial literature was developing at that time showing that lab rats living in an *enriched environment* developed bigger brains than rats living in regular cages. At this time I was doing my Masters degree and Roger was an intern. We replicated and extended previous findings and our papers were published in *Science*, *Nature*, and various neurological journals. We also wrote a review of the *Open-Field test*, used to determine the exploratory behavior of rats. This was published in the *Psychological Bulletin* in 1975 and remains my most successful paper, with over 750 ISI citations to date.

Then our paths separated, Roger to undertake post-doctoral training in the USA and I to start a PhD at the University of Western Australia.

For my degree I continued our research on environmental enrichment, only to show that the paradigm was false. The effect being studied was actually environmental deprivation, caused by the un-stimulating environment of the normal rat cage, which caused rat brains to under-develop. This was hardly interesting and the research area subsequently faded away. I then graduated and took up a new position as Senior Lecturer in Burwood State College in Melbourne.

Burwood was a teacher training college with no research facilities, so I had to drastically

change my research direction. I was employed within the Institute of Special Education to supply neurological expertise and raise the research profile. This was another formative phase in my education since, on entering this employment, I had almost no specific knowledge of disability. But my new colleagues were collegial and I soon found myself immersed in new experiences that considerable broadened my narrow ivory-tower horizons.

One of these was a personally-guided tour through one of the institutions for people with an intellectual disability. Many sights and impressions from that day stay with me, but the most vivid is walking into an all-female ward at *potty-time*. Some 40 or so middle-age women sitting on tin potties to perform their ablutions. The regimented and de-personalizing lives of these people could not have been more vividly demonstrated. My research and publications over the next decade had a focus on intellectual disability.

Question n. 4

What are you working on at the moment?

Answer

In the introduction to this interview I recounted my delight at discovering a predictable metric for subjective wellbeing (SWB), in that population means score from Western nations could be reliably placed within a range of 70 to 80 points on a 0-100 point scale. This finding has been a consistent feature of my research ever since. Once I had a solid empirical base to work from, numerous projects were created.

One of the first was to investigate levels of SWB for people with an intellectual disability, and for this purpose I had to develop a new scale. While a couple of *wellbeing* scales already existed, they did not have parallel versions for general population samples and so were in danger of setting the bar for normal wellbeing lower than would be more generally accepted. So, I set about creating a scale that had parallel versions for regular adults and people with an intellectual disability, both of which should be referenced to the normal 70-80 point range. The first version of this scale was called the Comprehensive Quality of Life Scale and, over a period of some six years it went through five editions. I then came to realize it contained some worthy and some unworthy features, and so in 1997 I created a new scale that retained just the desirable features of the original. This new scale is called the Personal Wellbeing Index (PWI) and, some 16 years on, I am overseeing the production of its

fifth edition under the auspices of the International Wellbeing Group.

The PWI forms the centre-piece for our major project, now underway for 13 years. In 2000 we linked with our continuing industry partner to create the Australian Unity Wellbeing Index. Our aim was to use the PWI to monitor SWB in Australia and we are about to run our 29th survey. Each involves 2,000 people, with a new sample each time, drawn proportional to the geographic distribution of the population. All data and reports on each survey are available for download from the Australian Centre on Quality of Life website. This project has allowed us to generate normative data for the population as well as demographic sub-groups, which is crucial for one of our aims, to identify sectors of the population which evidence abnormally low or high SWB. Some of these are surprising, such as the low SWB of men living alone and the high SWB of widows.

The other main arm of my research involves finding a theoretical explanation for the SWB stability. In my original 1995 paper describing the stability evidenced by the 70-80 point range I wrote *One explanation for this result could be the existence of a psychological, homeostatic mechanism that maintains an average level of life satisfaction at around [75 points]. This would be a highly adaptive device on a population basis ensuring that, under relatively stable but diverse living conditions, most people feel satisfied with their lives, thereby conferring a non-zero-sum benefit on the population as a whole.* And so it was that my training in biology provided a key to understanding SWB stability. A homeostatic management system seemed a logical device to propose, even though nothing like it currently existed in the discipline of psychology.

Now, almost 20 years later, many papers have been written describing how such a homeostatic system might operate. I have found that the simple logic for the existence of such a system has had appeal for students undertaking post-graduate studies under my supervision, and especially my exhortation for them to find out why the idea of homeostatic control is wrong. As I explain, we want to be the first to know, so we can also be the first to stage a dignified retraction. But this has not happened. Instead, the predictions of homeostasis theory have been generally upheld by data and several new insights have resulted from discovered anomalies.

Most recently we have a paper in press that claims we have demonstrated the existence of set-points for SWB. So the jigsaw of the explanatory framework we create, to account for SWB homeostasis, is continuing to develop. In part these changes are driven by new data and in part to incorporate new understandings. It is a total academic adventure.

Question n. 5

How do you see the relationship between theory and practice for a psychologist as well as in your own work?

Answer

The motivation for my total immersion in this line of research comes from being inquisitive, not from wanting to be practical. However, as luck would have it, in this area of research, theory directly assists practice by offering understanding. A couple of examples will illustrate my claim.

Perhaps the most obvious is the development of the Personal Wellbeing Index (PWI). There really is no comparable scale in terms of the theoretical grounding for its construction and its parsimony in measuring subjective wellbeing (SWB) through the minimum set of life domains which can be used to yield a diagnostic profile. It also ticks the boxes in terms of psychometric performance. So these characteristics make it an attractive and practical scale. But the additional benefit of the PWI for applied use comes from knowledge concerning normal ranges, derived from our Australian Unity Wellbeing Index project (see above). From these data we have constructed normal values for both individuals and common demographic groups in Australia. This means that the PWI can be used as an effective screening device for depression. Some clinics in Melbourne give their waiting patients the PWI to complete, which takes about 30 seconds, and this is used by the clinician as a quick diagnostic profile.

The other major practical use comes from applying homeostatic principles. Consider the analogy with body temperature. People can experience a wide range of ambient air temperature, yet retain a constant core body temperature. Similarly, people can experience a range of challenges resulting in measurable levels of stress, anxiety or depression using standard instruments, yet retain normal levels of SWB. In other words, the relationship between these measures of psychopathology and SWB is non-linear, provided that SWB remains under homeostatic control. Moreover, the point at which homeostatic control is lost reflects the balance between the strength of challenge and the strength of the defensive resources.

This understanding, of non-linearity, is crucial to the valid interpretation of output from standard scales of psychopathology. It means that, of themselves, such scales are inaccurate measures of psychopathology. Someone with low personal resources may suffer homeostatic

defeat with a stress score of 2/10, while a busy executive with ample resources may have normal-range SWB with a stress level of 6/10. This issue is elaborated in the next section.

Question n. 6

Our special edition is on the topic of *Pain and quality of life in chronic disease*. How do you think can psychological research contribute to solving patients' health - related quality of life problems?

Answer

Pain resulting from tissue damage is an extremely interesting topic for subjective wellbeing (SWB) researchers. It is also somewhat difficult to research. Let me first say why it is interesting.

The evolution of pain has ensured that, once initiated, pain remains maximally effective over time until the damaged tissue has healed. This is achieved through minimal adaptation to the pain sensation and also by demanding maximal attention. In this aspect, pain differs hugely from the positive feelings of pleasure, to which we adapt disappointingly fast. It also differs from other measures of pathology which can be offset by resources. Executive stress has already been mentioned in this regard, where a CEO may report very high stress due to the demands they must meet, but little distress. Their high command of resources, coupled with personal expertise and high regard from their employees, make their circumstances engaging and pleasurable.

Pain, on the other hand, is designed to be un-fun. It is the signal that some component of the body is damaged and needs attention or protection while it mends. Thus, pain tends to dominate consciousness.

Because of these characteristics, pain has a powerful ability to defeat SWB homeostasis. This can be demonstrated by studying the level of pain, on the 0-10 response scale, that signals the defeat homeostatic control and which therefore takes SWB below its normal range. This tends to happen at a pain rating of 3. In comparison, stress ratings need to be 5-6 before they produce this result, while other more benign sources of negative affect, such as dark thoughts about politicians, do not normally have the power to defeat homeostasis. In summary, of all the individual feelings that we have investigated as a threat to SWB homeostasis, pain is the most powerful

However, the relationship between pain and SWB is also difficult to research with understanding. When other sources of influence are

investigated, such as income level or stress, we assume their relationship with SWB conforms to homeostatic principles. Pain, however, is different due to its strong association with psychotropic drugs.

The reason for this problem is that psychotropic drugs effect more than just the physiology of pain transmission. Moreover, the extent to which these drugs influence the perception of SWB independently of pain is not known. Thus, a drug that produces a one unit decrease in SWB might have this effect by directly attenuating the neurological transmission of pain. It might also be acting on the systems responsible for generating the perception of SWB. As a result of these interactions, interpreting the mechanism of changed SWB scores is most uncertain. Importantly, the pain-SWB relationship may not conform to homeostatic principles.

Question n. 7

Going to a defining characteristic of HPR, we are focused on promoting the work of graduate students and early career researchers, helping them communicate their research and become accustomed to the system of peer-review and academic publishing. You have been extremely successful in both developing a publication record and becoming established in your field of research. Your work has been awarded on different occasions by the Victorian Department of Human Services, the Australian Research Council College of Experts and more recently you received the Distinguished Quality of Life Researcher Award from the International Society for Quality of Life Studies. What would be your advice for young and developing scholars on how to succeed in today's academic and professional world and make an impact from early on through their psychological research?

Answer

The university environment encountered by today's young academics is vastly different from the one I experienced 45 years ago. The world I entered as a tutor at the University of Queensland, and then as a lecturer at the University of Western Australia, was similar to one another and quite benign. In both places I had a light teaching load, contact with students was restricted to lectures and tutorials/laboratories, administrative duties were dealt with by office staff, and I could afford the luxury of thoughtful teaching preparation combined with plenty of time for research. Because there was no internet, the only contact with col-

leagues beyond the university was by postal mail, so the pace of life was slow. Staff from each department gathered at 1030 for morning tea, and at lunch time people recreated, which for me meant playing chess or go for an hour.

The contemporary contrast is stark. Universities have become large competing businesses, with all that entails. Young staff are beset with strong demands at every level of their job; a transformation which has occurred within professional work environments generally. Employees can find many sources of advice on how to manage a busy professional life. But this is just the mechanics. What causes some research-oriented academics to thrive in this environment is, I suggest, a high level of curiosity-driven motivation and a fearless need to broadcast their ideas, even when these run counter to the received wisdom from famous researchers. Happily, these two aspects of university life have remained intact through the institutional transformations. Let me explain.

I was a seriously bad student. I only just made the grade required to enter university and then consistently either failed courses or squeaked through with bare pass grades. It was the 1960s and I was having too much fun. Needless to say my sources of financial support quickly evaporated and so, for the many years it took me to gain an undergraduate qualification, I supported myself as a taxi driver. This is piecemeal, where the driver's earnings are a proportion of the money taken as fares. The hunt for fares between drivers is also very competitive and stressful, which is one reason the industry has such high employee turnover. Fortunately for me, the timing of my burn-out as a driver coincided with finally getting my B.Sc., and then everything changed. Thanks to my work with Roger Walsh (see above), Prof Budtz accepted me as a Masters research student and I got my first academic job as a half-time demonstrator (hands-on tutor) in the department of physiology.

I remember walking on air as I realized I no longer had to drive taxis. I could (just) live on my meager salary. With amazement I contemplated the almost complete disconnect between what I was required to do and the wage I was paid. Outside the few hours I was required to teach students, I got paid no matter how I spent my time and even during non-teaching periods. This sense of wonderment has remained with me ever since. As one important consequence, in my 70 to 80 hour working-week the distinction between a job and a hobby is entirely blurred. I never think in terms of my hourly pay; money just happens. My job motivation is curiosity and therefore intrinsic, which, incidentally, is good for SWB.

The second motivational feature that remains is the autonomy and academic freedom. Other than set times for meetings and

lectures, little attention is paid to my physical location or what I am doing. It was this autonomy that turned me from a highly marginal undergraduate to a successful post-graduate, and later academic. I had the freedom to follow my ideas, to share information freely with fellow academics from other universities, to publish strong critiques of unworthy ideas, and speak my mind to the press. As long as I have had the scientific evidence for my sometimes heretical views, I have never felt inhibited from disseminating my ideas and nor have I ever sought the permission of my managers to do so. For me, this has, and remains, a second strong motivator within my job and constitutes the essence of academic freedom.

Question n. 8

Finally, what do you think is the role of psychology in the contemporary world? What is/are the main contribution(s) it made or has to make in the coming future to strengthen its role as one of the most dynamic and important fields of scientific inquiry?

Answer

Psychology is a strong academic discipline. A big part of its strength comes from pride in being a science, and requiring applied psychological practice to be based on reasonable scientific evidence. Underpinning this tradition is the teaching of research methodology and statistics throughout the six years of training now required in Australia to qualify as a practitioner. This aspect of the curriculum not only provides graduate students with a sophisticated knowledge of statistics but also ensures that practitioners can read research papers with critical appraisal. But this strength as a discipline is poorly reflected by its influence on public policy.

Two other disciplines overshadow psychology in this regard. In terms of professional healing practice, medicine dominates. While within the past decade, practicing psychologists have gained access to fee rebates under the government funded Medicare universal health coverage, patients must still get a referral from a medical practitioner. Thus, medicine is the gate-keeper for clinical psychological practice. The other dominating profession is economics, which wields the political power. Politics is largely driven by matters fiscal and so the most influential political advisors are often people with training in economics. In comparison with these two disciplines, psychology is a minor player in matters of public policy. In my view, this is likely to change and I propose two

reasons.

The first is the cost of medicine, which is rising as a proportion of GDP in all economically mature countries. This trend is clearly unsustainable. Either access to medical treatments must be limited or alternative forms of treatment, that do not rely on expensive drugs and equipment, must be encouraged. Since a large proportion of medical consultations have a predominantly psychological cause, it makes sense to bring psychological practice into the foreground of health practice.

The second are rising doubts as to whether economics remains the best source of advice for national policy. Famously, its failure to foretell the Global Financial Crisis so enraged

President Sarkozy that he commissioned the Report by the Commission on the Measurement of Economic Performance and Social Progress (2009). Among the wise words in this water-shed document are these: *The commonly used statistics [in economics] may not be capturing some phenomena, which have an increasing impact on the well-being of citizens.* This conclusion may also apply to responses to national bankruptcies in Europe. The architects of the schemes seemingly consider austerity measures and asset-stripping more important than the distress these impose on the social fabric. Advice from social psychology is recommended.

There are, however, signs that both medi-

cine and economics are adopting some aspects of psychology. As one example, the area of subjective wellbeing is gaining strength as a construct and measurement useful to inform both estimates of public health and distribution of resources. In the first couple of months of 2013, both the Organization for Economic Cooperation and Development, and the World Health Organization published reports recommending that their member countries include SWB measurement within their suite of formal statistics. When this recommendation is adopted, massive new data sets will include SWB. I predict the analysis of these data will show the power of such cross-disciplinary collaboration.

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