Come again!??!
A review of supporting literature for the game

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Abstract

Motivation plays an important role in rehabilitation outcomes, and is a relevant topic in rehabilitation professions. In research on motivation, matters of communication are by far the most often cited means of influencing motivation. Communication of information in terms that are relevant to the patient is one way that motivation can be influenced. Additionally, this task calls for awareness of both the sending and receiving of nonverbal information in order to build an affective tie with the patients. Such characteristics as warmth, confidence and approachability are communicated almost entirely nonverbally. Training students of rehabilitation professions to effectively use verbal and nonverbal communication in motivating their patients is thus highly indicated. The aim of this study was to investigate relevant communication theory, and create a practical tool for introducing it to students of rehabilitation professions. *Come again!?!* the game of communication for students of rehabilitation professions is the product of this research.

Keywords: rehabilitation, motivation, communication, verbal, nonverbal, education, games

Introduction

More than most other areas of healthcare, physical rehabilitation outcomes are dependent on getting people to change their lifestyles, or do strenuous activities on a regular basis. This means that motivation is uniquely important to physical rehabilitation professionals. Although motivation is universally agreed to be influential in rehabilitation outcomes, it is a poorly defined and under-researched concept.

The topic of motivation in rehabilitation was explored in detail in a critical review by McLean and Pound (2000), which began with this quote from Gus O’Gorman, a radiologist and researcher, "Motivation of the patient is the most important, yet most difficult part of the work of therapeutic professions…” (1975). In their review Mclean and Pound divided the theories into three groups: those that purely discuss motivation as an internal personality trait, so-called “individualistic theories”; those that focus on the importance of the awareness of social factors and stresses, which they called “social theories”; and some that consider motivation in terms of some combination of the two. Social scientists would call it a problem of “nature vs. nurture.”

The main problem with studies which viewed motivation as a personality trait of the individual, as reported by Maclean and Pound, was that they failed to take into account social factors, such as economic status and cultural values, which can have a profound influence. More importantly, however, individualistic views of motivation have been shown to facilitate moral judgement (moralizing) of patients. Some studies actually described patients as slothful, apathetic, under-achievers and misfits. Not only is this clinically unhelpful, as it offers no solution to the problem of unmotivated patients, but it has been shown to have negative effects on patient care, and on the quality of patients’ lives after discharge, due to a lingering internalized sense of failure.

The evidence presented in the critical review for the so-called social theories was found to be more compelling, and yielded more practical insight. There was a great deal of evidence, for example, that better outcomes were achieved when professionals made an effort to understand the values of the patient. Since some social factors, however, cannot be influenced in a clinical setting (for example, a socio-cultural bias against fitness), some social aspects of motivation are as good as personality traits. Thus, social theories also have their practical limitations. Although some aspects
of motivation are purely the domain of the patient, it is of critical importance to clinical outcomes to consider the aspects of motivation that are the product of the interaction between the rehabilitation professional and the patient.

The review by Maclean and Pound and subsequent research suggest several areas where motivation can be influenced in the clinical setting, some of which can be directly effected by interaction with the treating professionals. Two more recent qualitative studies, one interviewing stroke patients (Maclean et al, 2000), and one interviewing professionals working with stroke patients (Maclean et al, 2002) have revealed perceptions on both sides of the circumstances that influence motivation. Among these circumstances they identified three motivational aspects, which cannot only be influenced in interactions with patients, but which can and should also be taught in a classroom.

1. Cultural sensitivity
2. Relevant goal-setting
3. Communication with patients

Throughout the literature there are references to specific behaviors by therapists and perceptions by patients that appear to have a direct influence on motivation. Some of these include acceptance of the patients’ idiosyncrasies and their views on rehabilitation, and being seen as warm, approachable and competent by the patients. Aside from the more affective aspects of communication, however, both high and low motivation patients expressed a desire for information to help them understand the relevance of their treatment.

Since the first two strategies, cultural sensitivity and relevant goal-setting, are already well covered in physiotherapy education, the aim of this study became investigating communication theory relevant to motivation, and creating a practical tool for introducing it to students of rehabilitation professions.

**Methods**

Research began with the critical review of the concept of patient motivation in the literature on physical rehabilitation, published in 2000 by Maclean and Pound, which provided a thorough background of the research on motivation prior to that date. Additional literature was sought with the criteria described in table 1.

<table>
<thead>
<tr>
<th>Table 1: Literature search criteria</th>
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<td><strong>Inclusion criteria</strong></td>
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<td><strong>Exclusion criteria</strong></td>
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<td><strong>Keywords for motivation literature</strong></td>
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<td><strong>Keywords for communication literature</strong></td>
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<td><strong>Keywords for pedagogical literature</strong></td>
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The ground rules for critical appraisal of qualitative research described in the article “How to read a paper: Papers that go beyond numbers (qualitative research)” published by the British Medical Journal in 1997 were used to evaluate all qualitative literature. One book, which was older than our inclusion criteria allowed, *Silent Messages* by Dr. Albert Mehrabian (1971), was nonetheless included, because it was the primary source to which all of the more recent literature about nonverbal communication referred.

**Results**

**Communication**

In our research on motivation there appeared to be two clear aspects of communication which can have an influence: *verbal*, the actual transferal of information in a way which resonates with the patient’s interests and values; and *nonverbal*, the more subtle, affective ways in which we express such things as approval, acceptance, warmth, confidence, competence, interest, etc.
Importance of verbal communication
As stated in the introduction, research into motivation with stroke patients (Maclean et al., 2000, 2002) revealed that patients desire information from professionals about the rehabilitation plan and goals. Not only did some patients claim that receiving information motivated them, but other patients complained that a lack of information was demotivating. Interviews with rehabilitation professionals also echoed the belief that providing relevant information to patients increases motivation. Furthermore, both patients and rehabilitation professionals stated that contradictory messages from different members of the rehabilitation team were a negative determinant of motivation.

Importance of nonverbal communication
Dr. Albert Mehrabian (1971) is credited with the creation of what is known as the 7%-38%-55% rule of communication theory. His research showed that there are three elements of face-to-face communication - words, tone of voice and body language - which count differently toward our affinity for the person who puts forward a message. The distribution of these elements in a communicated message is represented in figure 1.

Figure 1: The 7%-38%-55% rule

This means that only 7% of communication is verbal, and the other 93% is nonverbal. It is important to note that this rule applies to the emotional content of a message. Mehrabian’s research is echoed by the findings of literature on motivation, in that much of what was found to have an influence on motivation were elements of the affective component of communication. Things such as approval, warmth, competence, and approachability are communicated nonverbally. Additionally, according to Knapp and Daly (2002), “Nonverbal cues tend to be believed over verbal cues, even if the verbal message is more extreme.” Thus, it is impossible to overstate the importance of nonverbal communication relative to motivation.

Defining nonverbal communication
Nonverbal communication is not only powerful, but also diverse and highly nuanced. According to the literature, nonverbal information is communicated in a variety of ways, and serves six functions which can be seen in table 2.

Table 2: Nonverbal expression and its functions (Gudykunst, 1998)

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<tr>
<th>Examples of nonverbal expression</th>
<th>physical appearance</th>
<th>space use</th>
<th>vocal intonation</th>
<th>body language:</th>
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<td>shrugs</td>
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<td>eye movement</td>
<td>facial expressions</td>
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Six functions of nonverbal behavior with respect to verbal behavior:
- repeating
- contradicting
- substituting
- complementing
- emphasizing
- regulating conversation

Teaching nonverbal communication
It has now been well documented in health literature that communication skills can be taught (Roter et al, 1995). Also relevant is that age, occupation and training appear to be related to encoding and decoding skills (the skills of sending and receiving messages), while race, education and intelligence do not (Knapp & Daly, 2002). Little known, however, is the fact that communication skills, and especially nonverbal communication skills must be taught. According to Riggio and Feldman (2005), “these skills are not habits that accrue naturally over time, without intervention.”

Educational media
Developing any kind of habit requires programming procedural memory, and communication is no different. It makes sense to use a teaching tool that requires the students to act out the concepts verbally and physically, rather than just reciting the facts, which only requires declarative memory. Thus, using a game which challenges students to employ these skills seemed to be especially well suited to that purpose. According to Hogle (1996) games are thought to increase interest, motivation, and retention, as well as to improve higher order thinking and reasoning skills. Additionally, Dr. Diana Oblinger (2004) has stated that games can be an effective way of learning, because they have many attributes that are associated with how people learn. Finally, implicit in the research literature on educational games is the idea that instruction on background information should be paired with elements of a game to
maximize their effectiveness (Garris et al, 2002). Thus, it is important that the students read the accompanying literature before playing the game in order to achieve the desired learning outcome.

**Game design**

Since both the construction and deconstruction of messages, referred to in communication literature as encoding and decoding, are required for effective patient interaction, the game was designed to train both skills at the same time, as recommended by Knapp and Daly (2002). Also, the game is designed to teach awareness of the various communication elements rather than a fixed prescription for ideal interaction. Since interaction with patients is rather unpredictable, it makes sense to teach a flexible system of responses, rather than striving for increases or decreases of particular nonverbal behaviors (Riggio & Feldman, 2005). The aim, of course, is ultimately to empower therapists with another tool for motivating their patients, which can conform to any scenario.

**Discussion**

In terms of what we can do to improve motivation as rehabilitation professionals, effective communication was by far the most frequently cited means by those who believe that motivation was not a purely a personality trait. Even the topics we eliminated as possibilities for our research (cultural sensitivity and relevant goal-setting) are achieved through communication. Given these research conclusions, it seems logical that communication as such should be added to the curricula of rehabilitation professions.

Communication is a theoretically rich and growing field, abundant with literature and ongoing research. It is also a subject that is naturally given to interdisciplinary cooperation and application, because communication has unique applications within various other disciplines. Dr. Mehrabian’s pioneering research in nonverbal communication has shed light on an aspect of communication that, despite its potential, is not widely known outside of the field of communication itself. Given its relative importance to communication as a whole, and specifically to motivation, it appears to be an advantageous and innovative topic to introduce into the rehabilitation professions.

Role-playing is often used as a means to help students incorporate new concepts. Teaching communication itself, however, requires a more specific strategy. **Come again!?!** takes Dr. Mehrabian’s 7%-38%-55% rule and makes tasks out of each aspect which specifically target awareness of how they are used in communication. Verbal tasks ask players to either describe a rehabilitation term without using jargon, or draw a picture representing the term so that their teammates can guess it. Nonverbal tasks ask players to express an emotion either in body language or in vocal intonation while reading a textbook, in a way that their teammates can guess what it is. In this way, students are exposed to the process of encoding and decoding nonverbal messages in a practical way.

Distributing the tasks in the same proportion as the rule was considered, however there were practical limitations. For example, if verbal tasks comprised only 7% of the content, there would be a good chance that students could get through the entire game without ever encountering a verbal task. Also, since part of the appeal of a game is that it is engaging and fun, it is important to have a good balance of tasks that are not so conceptually new and difficult.

The game as such has not undergone pilot study to find out if it actually succeeds in improving communication with patients in such a way that motivation is increased. It was, however, tested with a group of physiotherapy teachers who unanimously agreed that the game was fun, the objective was clear, the level of difficulty was appropriate and that they would use it to teach communication concepts to students.

There are two issues with the recent research on motivation that must be mentioned. First, the critical review by Maclean and Pound does not disclose their methods. Inclusion and exclusion criteria for literature are not mentioned, nor are the criteria by which it was evaluated. Second, although the conclusions were strongly supported by evidence, the qualitative research by Maclean et al (2000 & 2002) has not been validated by other research methods.

Another point worth mentioning is that not all patients will benefit from this approach to communication. On the one hand there are patients who are self-motivating; on the other hand there are patients who need help that is beyond the scope of physical rehabilitation. This concept can only reasonably be expected to be successful with those who are within the margins of influence.
Conclusion

Effective communication is the most important means by which rehabilitation professionals can influence patient motivation. Communication concepts can and should be taught to students in these professions. *Come again?!?: the game of communication for students of rehabilitation professionals* is built on sound communication theory, and may be an effective way to train students to incorporate these concepts into their communication habits with patients.

Acknowledgements

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References


