

Components and determinants of the shift between the own persona and the clown persona: A hierarchical analysis

Alberto Dionigi¹,
Willibald Ruch²,
Tracey Platt²

¹Department of Education, Cultural Heritage and Tourism, University of Macerata, Italy

²Department of Psychology, University of Zurich, Switzerland

Abstract

Working in health settings as a clown requires the ability to differentiate between the own persona and the clown persona and to stay in the role, despite a variety of challenging situations. This passage requires a cognitive shift that can be interfered with, or facilitated, by several variables. This study aims at operationalising the components involved in the shift and relating them to psychological characteristics and other relevant aspects of the training necessary to become a clinic clown. A preliminary 34-item version of the Clown Shift Questionnaire (CSQ) was developed and administered to a sample of 130 Italian clinic clowns. Relevant information such as sociodemographic characteristics, various aspects related to the training received such as length, issues taught, internship carried out, psychological knowledge, and competences in clowning were collected. Four dimensions in the shifting process were identified: reflective awareness, positive beliefs, interference, and anxiety. These dimensions represent a profile of individual differences that may be used to predict the success of the clown intervention. Reflective awareness positively correlates with the aspects related to the training and the years of clown activity, while positive beliefs is a dimension not related to training. Anxiety is higher among females and younger people and correlates negatively with training aspects and years of activity. Interferences are more frequent among those who received higher psychological knowledge and lead to less satisfaction. Further implications for using the concepts of CSQ in research and in the work of clowns in health settings are discussed.

Keywords: clown; cognitive shift; training; instrument development; mental preparation.

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1. Introduction

Clowning in health settings was first established in 1986 by Michael Christensen, a professional clown who set up the first Clown Care Unit (CCU) in New York (Dionigi et al. 2012). Over the last three decades, the number of clowns in health settings has largely increased. For example, in 1991, *Le Rire Medicine* was founded in France and, two years later, the *Theodora Foundation* was established in Switzerland. With reference to the Italian scenario, the first professional clown care unit was established in 1995. Nowadays, the number of Italian clinic clowns is approximately estimated at 6,000/6,500 members (both professionals and volunteers) belonging to a large number of associations. Clowning in health settings represents a well-established way of entertaining children, adults, and the elderly during their recovery in healthcare institutions (Ruch et al. 2013). Clowning evokes thoughts of laughter, humorous gags, colourful clothing, spontaneous humour, and big shoes. However, these images are typically related to clowns performing at birthday parties and circuses. When rationalising about clinic clowns, things change dramatically: images of sick children, patients with intravenous drips, bedpans, syringes, and all sorts of other medical equipment are evoked (Warren 2009: 214–219). Clowning in health settings represents a special way of clowning, due to the variety of medical and emotional aspects associated (Linge 2012: 62–67; Simonds & Warren 2004).

There are some specific differences between being a clown and a clinic clown, since being a good performer is not enough: clinic clowns must adapt their intervention to the health setting and must be able to cope with a variety of emotions and difficult situations (Dionigi et al. 2012: 394–399; Linge 2008: 568–580). Working as a clown in a health setting requires particular focus on the activity, being able to elicit a rise in exhilaration accompanied by smiling and laughter (Auerbach et al. 2013: 68), and possessing high levels of empathy and intuition when dealing with patients (Ruch et al. 2013). In order to fulfil these requirements, clinic clowns must be able to differentiate between their own persona and the clown character, and to remain in the “role”. Since a role can be described as a social position carrying specific expectations for behaviour and obligations (Merton 1957: 207–209), when playing a specific role, individuals tend to become closely tied to an individual’s sense of self or identity, and to behave in accordance with this role identity (Mead 2009). When performing, clinic clowns act clumsily and in a playful way, always sharing the clown’s unique, paradoxical, and humorous point of view. The character of the clown is unique, because clowning is more than just playing a clumsy role; it is essentially a state of mind that, although not identical to the state of mind of the everyday persona, is based on, and overlaps with, personal characteristics. Entering the role of a clown involves making a transition (i.e. a shift) in the perception of one’s self and assuming a specific frame of mind.

In the present article, we aim at introducing the concept of the *clown shift*, defining the factors which facilitate or hinder it, and presenting the results of an empirical study investigating the relevance of these factors which may help in identifying the good clowns. The clown shift may be defined as the cognitive change that occurs when a person leaves the habitual state of mind to enter the clown’s state of mind and vice versa. The clown shift represents a modification in the way reality is seen, which leads to a change in how people behave and think. After the shift, people no longer behave in their usual persona, but become their clown character. In this frame of mind, people are allowed to cross the border between reality and fantasy, where (almost) anything is permitted. Shifting into the clown role makes it possible to approach the naive and purest part of oneself, breaking down defences and securities. In this way, the uniqueness of the individuals and their personal strengths are

shown: clowning becomes the bearer of a philosophical, alternative, way of life in which there are no social conventions, allowing to see the world from a different perspective. This perspective is humorous and childlike: everything appears as if it was new, and is approached with wonder and awe.

When entering this peculiar state of mind, it is assumed that people differ in both the strategies employed and the time needed to complete the shift: some people can shift instantly, while others may require particular rituals. Since the cognitive shift is triggered by the brain's response to some external or internal force (Jacobs 2002), two particular moments are important for clinic clowns: when they dress in the costume of the clown and leave their persona to "become" their clown character, and when they do the opposite, once they have finished their work.

An exemplification of the shift process is given in Figure 1 that has been drawn according to practical experience of one of the authors and a review of the literature (e.g. Simonds & Warren 2004). Once the different phases were identified, they were discussed and re-defined by the authors. The sketch represents a good example of what generally happens before, during and after the work in the health setting. Nonetheless, there may be variations in some aspects, due to the different settings where clowns work, the medical procedures required by the health care staff, and the personal differences in approaching the clown practice.

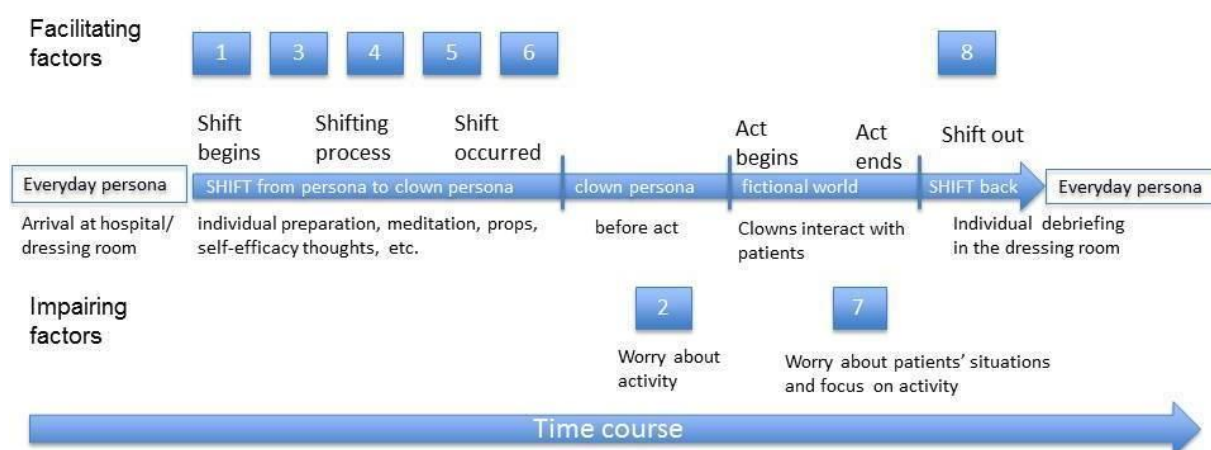


Figure 1. A sketch of the course of shifting and some facilitating and impairing factors. (Numbers represent the scales of the CSQ; 1 = attention; 2 = anxiety; 3 = cognitive general; 4 = motivation general mastery; 5 = motivation arousal; 6 = motivation specific; 7 = cognitive interference/self-talk; 8 = emotional attention after shift).

- a) *Arriving at the hospital and receiving information.* Clinic clowns arrive at the health setting – still in their normal persona – and, usually, once in the ward, ask nurses and doctors for information about recovering patients. During this phase, information about the general condition of patients and relatives is collected. At this time, clinic clowns are also warned about the presence of specific situations that they should pay particular attention to (e.g. patients with aggravating medical conditions) and are informed about patients who must not be visited in order not to disturb them (e.g. when a patient is sleeping or cannot be visited for medical reasons). Once this information is received, they go to the dressing room and start the “transformation”.

- b) *Dressing room activities.* During this phase, the person (or persons) enters the dressing room and takes off their normal clothes, puts on the clown costume, and lets the process of the character change begin. It is assumed that this is the moment when the shift begins. At this point, clowns start to concentrate on what they are going to do and begin to think about the situations they will face. Then, clinic clowns read a diary – stored in the dressing room – that contains comments left by other clowns who have worked in the same setting over the previous days, in order to get a clearer idea of what they will encounter. This time point is often used by clinic clowns to concentrate in order to facilitate the shift: some have rituals, others do concentration exercises, some prefer to remain silent, and so on. In the present study, this phase was investigated through targeted questions that have been collected in the cluster “attention”.
- c) *Shifting in.* Clinic clowns are still in the dressing room and the process of shifting continues. In this phase, clinic clowns put on their coloured coat, prepare and put their props into their clown’s bag, apply make-up and, if working in pairs, talk about the upcoming activity. This is the period when clinic clowns talk about patients they will encounter and how to deal with them. They also imagine what they will do once they are in the ward, both from a technical (how to utilise props) and from a psychological (how to deal with emotions) point of view. Once this phase has finished, clinic clowns have shifted into their clown character and are ready to leave the dressing room and start clowning. This phase is often characterised by a “final step”, which identifies the end of the shifting process (e.g. putting on the red nose, doing breathing exercises with the clown colleague, or speaking in a different voice).
- d) *Pre-activity.* Once they have put their costume on and shifted, clinic clowns are now ready to start working. In this phase, they can experience anxiety, due to the closeness of the upcoming performance. This phase is relevant for the purpose of our study. It is assumed that the more the clowns have shifted into their characters, the less anxiety they will feel. It is also assumed that the ability to cope with anxiety is affected by other variables such as age, length of training, experience, amount of hours worked during the week, etc. The lower the clowns score in these variables, the more they experience anxiety.
- e) *Activity.* This is the phase in which clowns start performing with patients. This phase can have large variations in length, as it depends on several factors: the setting and the ward the clowns are working in (e.g. paediatric, oncology, or houses), the number of patients encountered, the level of difficulty of the situations they will face, the typology of intervention (e.g. room-visits, accompanying to operating room, or working in a group with elderly). Generally speaking, the length of the intervention is between one and four hours. During this phase, clinic clowns are required to pay attention to the situation, be empathetic and focused, not to lose concentration worrying about the patients’ health, and not to use avoidance as a coping strategy. It is assumed that clinic clowns who accomplish a better shift tend to concentrate more on their task and are less disturbed by internal thoughts or external influences.
- f) *Debriefing.* Once the activity has finished and the clowns have met the last patient, they return to the dressing room and start the opposite process, i.e. shifting from the clown character to their normal persona. Clowns have different strategies in order to deal with the emotions they have just experienced. Once their activity is finished, clinic clowns usually take time to share their emotions (with the colleague, if working in pairs, and writing a diary in which they collect thoughts about the work just

- g) finished). Debriefing minimises the onset of symptoms due to experiencing stressful situations (Corey 2011).

It is probable that no person can shift from his/her persona to the clown persona and vice versa instantly, especially when first approaching this role: some procedures, both cognitive and behavioural, are required. For this reason, according to the sketch of the course of shifting (see Figure 1), we have developed eight subscales aimed at measuring psychological and behavioural strategies clinic clowns perform before, during, and after the activity.

1.1 Factors facilitating and impairing the shift

According to practical experience and a review of the literature (e.g. sport psychology, mental preparation of actors, and studies investigating the cognitive shifts actuated by health care staff), eight specific components were postulated to be important for the purpose of our study: attention (including routines and relaxation strategies), anxiety, imagery (separated into cognition general, motivation general mastery, motivation general arousal, motivation specific), cognitive interference, and emotional attention after shift. These eight components are relevant at different stages in the clown visit (see Figure 1) and some are considered to be beneficial to the shift, while others are detrimental. Clowns are expected to differ in these components, and some of these components might be affected by the quality and length of training and by the amount of work experience, while others might primarily reflect personality extending into their clown persona. These components are expected to predict differences in the actual performance of clowns.

Attention refers to individual differences in how much a clown concentrates on the shift from normal persona to a clown persona before the activity, by allowing enough time for mental preparation, using rituals, doing concentration and meditation exercises and even leaving extra time if needed. More specifically, this moment includes sequences and routines that aim at psychological preparation and the blocking of external distractions, adjusting arousal level, reviewing and mentally rehearsing the forthcoming tasks (Lonsdale & Tam 2007). Attention is a crucial aspect for clowning in health settings as well as other fields. For example, nurses, similar to clowns, move among patients' rooms and must be able to detect patients' changing and needs, engaging in a recursive cognitive process that uses inductive and deductive cognitive skills (Simmons 2010). While we measure attention during the preparatory stage, we assume that this has lasting effects during the entire clown visit, allowing the clowns to remain focused on their role and be able to face emotional challenges. Moving among different patients, in fact, may lead to a loss of concentration either because of the distraction created or because of the nature of the interruption which requires a redirection in care (Potter et al, 2005: 508–516). The level of attention will be a matter of experience (years of working as a clown) and quality of training; presumably, attention improves with experience and the knowledge learnt during the course. Consequently, individuals will easily show higher attention with a higher consciousness.

Anxiety refers to individual differences in the extent to which a clown worries about the upcoming performance, during the transformation or once the shift has occurred. This can be described by a feeling of nervousness and perceived bodily symptoms such as a queasy feeling in the stomach or a faster heartbeat. Anxiety impairs the shifting, and anxious individuals are more susceptible to poor performance, as they focus more frequently on potential threats in the environment (Eysenck & Derakshan 2011: 250–251). However, in order to prevent stage fright, performers and actors, during their training, learn a set of

techniques to manage negative emotions (Orzechowicz 2008). These strategies can be useful also for clinic clowns, as they must be able to manage emotions in order to perform well and to be concentrated on their task. Different strategies such as taking specific time to immerse themselves in their own character and meditate or concentrate can be used to promote the passage from persona to clown persona. Anxiety represents a detrimental aspect for the clown. It will partly be a matter of personality that transcends the situation and may interfere with the nature of the adopted clown persona. Anxiety can also be overcome by the habitual practice as well as the amount of skills and knowledge that someone acquires during their training. Anxiety is related to neurotic introversion: some of it can be overcome, but some levels of it, due to habitual differences, will remain.

Imagery refers to the individual differences in using one or more of the senses to imagine, create, or recreate, the clown task during the clown shift, while still in the dressing room. Imagery has been divided into cognitive and motivational functions (Paivio 1985). Imagery is a strategy largely utilised in sport psychology (Moran et al. 2010): athletes that use this technique are more motivated, self-confident, focused, and able to cope with adversity (Bertollo et al. 2009). Imagery involves four aspects: the ability of clearly visualising what will happen during the activity while interacting with patients (cognitive general), the tendency of the clowns to imagine themselves being able to deal with the emotionally and the artistically difficult situations during the performance (motivation general mastery), the tendency of the clowns to imagine themselves remaining relaxed during the performance (motivation arousal), and the tendency to imagine themselves being good clowns and to imagine themselves being accepted and appreciated during the performance (motivation specific). We assume that the better the imagery, the more effective that imagery will be in aiding his/her performance or skill acquisition. We predict that this characteristic will be mainly a matter of personality, related to personal aspects such as perceived self-efficacy and self-esteem, while lesser related to training.

Cognitive Interference refers to the tendency of losing concentration during the clown activity and of being disturbed by external thoughts related to a patients' situation or personal disengagement. Cognitive interference represents a negative aspect that can hinder concentration, leading to worries about external events and about performance (Sarason et al. 1990). In other words, cognitive interference refers to the attention disturbance due to the attempt to process the stimulus, while simultaneously processing another stimulus (Bush et al. 1998). Clinic clowns who work in health settings must be able to maintain their attention and focus on their task, while dealing with tough emotional situations. Cognitive interference will be a matter of training, practice, and personality. The more experience clinic clowns have, the more they will be able to stay concentrated on their task, as they are already used to dealing with emotional situations. However, cognitive interference is also related to neuroticism and introversion: neurotic introverts tend to be worried and over-concerned, and this can lead to a continuous breaking of concentration.

Emotional Attention After Shift refers to the individual differences in performing behavioural and mental strategies, after the performance has finished, in order to promote the shift from clown persona to one's own persona. This passage can be promoted by taking a specific time for debriefing, by using rituals or by sharing emotions, either by writing a diary or by talking to the colleague (if working in pairs). The after-activity period seems to be important in order to permit to debrief (Geravis et al. 2006). Taking a specific time to rest, with reduced talking about the event, may, in fact, be an adaptive response to process the experience faced and to gain higher awareness (Goldberg & Nupp 2009). Debriefing permits to analyse what happened during the clown activity: it represents a period of time to think

about both positive aspects and shortcomings in the artistic and relational domains. The level of emotional attention after shift will be a matter of experience and so will the quality of training. It will also be related to personality, since individuals generally more open to experience will easily utilise mental and behavioural strategies.

1.2 Aims of the present study

The present study aims at measuring the cognitive and behavioural strategies utilised by clinic clowns before and after the passage into their clown character (shift). Based on the model outlined above, a pilot version of the Clown Shift Questionnaire (CSQ) is developed. We assume that people with high scores in the facilitating features and low scores in the interfering aspects of the CSQ will be better able to differentiate between their persona and their clown persona, and, therefore, they will perform better than others. The specific purpose of this study is threefold:

a) To operationalise the eight components presumably involving or affecting the shift with the help of a self-report questionnaire developed for this purpose (CSQ) and to examine its psychometric properties;

b) To examine the internal structure of the components of shifting and to obtain a smaller number of factors that account for the observed intercorrelations (i.e. styles of clown behaviours that can be found throughout the stages);

c) To relate these components of the shifting process to relevant information, such as length and topics of the training carried out, psychological knowledge and skill abilities in using props.

This will lay the foundation for further studies illuminating the conditions for optimal clown performance and training. Also, the preliminary version of the scale will be further used in the training of clowns.

2. Method

2.1 Participants

The sample consisted of 130 Italian clinic clowns (33 males and 97 females) ranging from 17 to 69 years ($M = 37.50$, $SD = 10.62$). Participants were well-educated adults (0.5 per cent elementary school, 6.7 per cent obligatory school, 43.1 per cent high school, 49.7 per cent university). With regard to the marital status, 57.4 per cent were not married, 30.8 per cent were married or cohabitants, 9.2 per cent were divorced, and 2.6 per cent widowed. Participants had various occupations like sales personnel, engineers, career counsellors, and office workers. Largest groups ($n \geq 10$) were $n = 22$ office workers, and $n = 14$ students. Participants received different amounts of hours of training to become a clinic clown ($M = 151.28$ hours, $SD = 104.68$, range 16 to 600 hours), and most worked voluntarily as clinic clowns (19.2 per cent of them earn money for their activity). Participants had different levels of experience in the art of clowning in health settings ($M = 4.86$ years, $SD = 3.21$, range = 0–13 years).

2.2 Instruments

The *Clown Shift Questionnaire* (CSQ; Dionigi et al. 2013). The CSQ is a 34-item questionnaire that aims at measuring how clinic clowns prepare themselves before and after the clown activity in health settings, and which cognitive and behavioural strategies occur

before and after performing as a clinic clown. The items are answered on a Likert scale ranging from 1 (= never) to 7 (= always).

Item Generation. The purpose of this study was to develop an initial item pool of the CSQ, to explore the underlying factors, and to test its validity, i.e. good internal consistency and minimal overlap between scales. We generated scale items using a combination of a deductive and inductive approach to scale development. The items have been developed investigating the literature concerning the preparation management process. A useful and overlapping theoretical background was taken from sport psychology (e.g. Moran 2012). According to the psychological literature and the experience of one of the authors as a clinic clown, we began by developing mutually exclusive and specific definitions of the different hypothesised dimensions. The initial pool of the items was first discussed among the three authors and a psychologist and humour researcher, so that redundant and ambiguous items were omitted. The initial pool of the items was administered to three Italian clinic clowns to generate possible additional items and to determine whether additional dimensions would emerge. Their feedback was helpful in re-writing redundant or missing aspects. A 34-item questionnaire was finally developed.

The *Demographic Questionnaire* asked about the participants' age, gender, relationship status (not married, married or cohabitants, divorced, or widowed), level of education (elementary school, obligatory school, high school, and university), and employment status. The questionnaire also included items related to the training attended to become a clinic clown. Clowns were asked whether they had finished their training and whether the training was taught by professional trainers (yes or no answer format), the amount of hours the course lasted (in total and divided into theory and practice), the amount of hours of internship carried out, the number of years of clowning practice, and the average amount of hours worked during a typical week. They were also asked for information about the setting they work in and about their relationship with colleagues. Additionally, clinic clowns indicated the degree of satisfaction at the end of the activity, their perception of having disturbed the healthcare staff, how much they find it easy to work with partners, and the frequency of usually working with the same partner. Moreover, a rating scale was developed to assess how much the clinic clowns perceive themselves skilled in several clown techniques before starting the training and at the moment they completed the survey, such as the degree of knowledge about psychological topics taught during the training. To answer these questions, they utilised a Likert scale from 1 (not at all) to 7 (always). Finally, clinic clowns were asked if, during the course of the last year, they had attended specific training and if they had been paid for the activity (no = 0; yes = 1).

2.3 Procedure

The study was conducted among a broad sample of Italian clinic clowns. E-mails were sent to the coordinators of Italian clown care units, asking them to forward it to clinic clowns belonging to each clown care unit. The e-mail contained a link to the survey created on Survey Monkey as well as a short statement describing the purpose of the survey and confirming the anonymity of participants. An initial sample of 212 participants started the survey. Both certified and in training clinic clowns participated in the study: the sample was composed of both professionals and volunteers. In order to ensure that they had practice with the clown shift, only participants who have had an internship experience were included in the study. Participants that did not meet this inclusion criterion were excluded from analyses. The final sample that fully completed the test battery, comprising the initial pool of 34 items of the

CSQ, was composed of 130 clinic clowns that represents 61 per cent of those who clicked on the first page. To keep the surveys anonymous, no identifiable information (e.g. name, ID number, or e-mail address) was collected.

3. Results

3.1 Analyses

To investigate the structure of the CSQ two analyses were performed. First, a principal component analysis was performed on the intercorrelations of the eight scales to understand how the scales can be represented by a lower number of factors. Second, a hierarchical factor analysis (see Goldberg 2006) was employed at the level of individual items. Solutions between one and eight factors were examined in order to have the possibility to study the relations between factors of different stages of extraction. Hierarchical factor analysis allows seeing how the factors unfold with increasing numbers of extracted factors. In more detail, the first principal component was extracted and the factor scores were saved. Next, two factors were extracted, rotated according to the Varimax criterion, and the factor scores were saved. This procedure was repeated for all solutions up to the eight hypothesised factors. The factors were interpreted and an optimal number of factors were determined. The factor scores of adjacent factor solutions were correlated with each other, and the salient relations ($r > .35$) were represented using arrows. This way, it can be shown how the factors unfold, i.e. how they split up or stay stable from solution to solution. The internal consistencies of the eight subscales of the CSQ questionnaire were estimated by the Cronbach's alpha coefficient.

3.2 Evaluation of the pilot version of the Clown Shift Questionnaire

The statistics of the initial version of the CSQ scales are presented in Table 1 together with their internal consistencies, their correlations with gender and age, and results from the principal components analysis. Table 1 shows that two scales (general motivational arousal and emotional attention after shift) were higher than the scale midpoint (i.e. four), while the others were below. Anxiety during the preparatory stage and cognitive interference reported the lowest scores. Anxiety also correlated with gender, replicating the effect that females report being more fearful in general. The reliability of the scale motivation general arousal was insufficient ($\alpha = .40$), but the others had, at least, internal consistencies adequate for research scales: the reliability scale of anxiety was acceptable ($\alpha = .70$) and the others were even as high as .80 (motivation general mastery). Deleting items would not have changed the internal consistency of the subscales, apart from the subscale motivation general arousal (Cronbach's alpha would have increased from .40 to .49 by deleting item number 8).

Table 1. Descriptive, correlations and factor loadings for Exploratory Factor Analysis of CSQ subscales

CSQ scales	<i>M</i>	<i>SD</i>	<i>r</i> age	<i>r</i> gender	F1	F2	F3	<i>h</i> ²	Alpha
Attention	3.66	1.28	.09	-.04	.06	.17	.79	.71	.71
Anxiety	3.14	1.15	-.18*	.25**	-.09	.81	.07	.65	.70
Cognition General	3.30	1.06	-.06	.14	.74	.33	.06	.76	.60
Motivation General Mastery	3.93	1.37	.07	.06	.90	.03	.04	.84	.80
Motivation General Arousal	4.94	.96	.00	.08	.78	-.37	.08	.72	.40
Motivational Specific	3.96	1.25	-.02	.15	.94	.08	-.06	.87	.73
Cognitive Interference	2.12	.86	-.23**	.09	.15	.80	-.04	.69	.74
After Shift	4.29	.93	.03	.03	-.04	-.12	.90	.78	.59

Notes. *N* = 130. *h*² = communality. Alpha = Cronbach's alpha; After Shift = emotional attention after shift. *r*age = correlation with age. *r*gender = correlation with gender (1 = male, 2 = female); *h*² =communality. F1 = positive beliefs and self-efficacy, F2 = interference, F3 = reflective awareness.

3.3 Scale intercorrelations and scale factor analysis

The intercorrelations between the eight subscales ranged from $-.12$ (ns) to $.71$ ($p < 0.01$) (strongly positive) and there seemed to be three clusters of correlations. First, the four domains of imagery formed a cluster of intercorrelated subscales with the correlation coefficients ranging from $.41$, $p < .001$ to $.82$, $p < .001$ (median = $.66$). The attention subscale and the emotional attention after shift form a correlated package ($r = .45$, $p < .001$), and both correlated slightly positively with the four domains of imagery. Thirdly, the anxiety subscale correlated positively with cognitive interference ($r = .41$, $p < .001$) and both tended to correlate positively with the four domains of imagery.

The principal components analysis also suggested three positively correlated factors. Three eigenvalues exceeded unity (eigenvalues of 3.39, 1.50, 1.14, 0.60, and 0.55) and the scree-test suggested the retention of three factors accounting for 75.3 per cent of the variance. The Oblimin rotation led to a correlation of $r = .33$ between factors 1 and 3 (see Table 1). The first factor comprised the four scales of cognition general, motivational general mastery, motivational general arousal, and motivation specific, and was tentatively called “positive beliefs and self-efficacy”. This factor reflected the frequency with which participants engaged in four types of imagery before clowning. The second factor, tentatively labelled “interferences”, was primarily loaded by anxiety and cognitive interference, and there were minor second loadings of cognition general and motivation general arousal (negatively). This factor combined the elements impairing the shift, i.e. it reflects the tendency to be anxious before starting the activity and to lose concentration on the task while facing touchy situations regarding the recipients of the clowning performance. Finally, attention and emotional attention after shift loaded on factor that was labelled “reflective awareness”. This factor relates to the tendency to concentrate on the shift from persona to a clown persona and vice versa, by taking a specific time for mental preparation, using rituals, and doing exercises of concentration and meditation both before and after the activity. This factor was positively correlated with positive beliefs. Likewise, the two negative factors yielded a small positive intercorrelation, while the two sets of factors were independent from each other. Table 1 shows that the values indicating the communality of the scales is approximating the reliability, suggesting that most of the reliable variance is covered by the factors. Interestingly, the less internally consistent scales also have a high communality, indicating the existence of items that lower the internal consistency.

3.4 Hierarchical factor analysis

A hierarchical factor analysis was conducted to examine the hierarchical unfolding of factors (Goldberg 2006). The principal components analysis yielded one strong factor (explaining 21.9 per cent of the variance), but nine eigenvalues exceeded unity (eigenvalues were 7.46, 4.17, 2.81, 2.39, 1.59, 1.37, 1.17, 1.07, and 1.02). The examination of the scree plot indicated that four factors were higher than the others, but the number of factors may be between four and six. Solutions with two, three, four, five and six primary factors and a single general factor were inspected to identify the relations of factors of different levels in hierarchy and to identify the most interpretable factor structure. The results are presented in Figure 2.

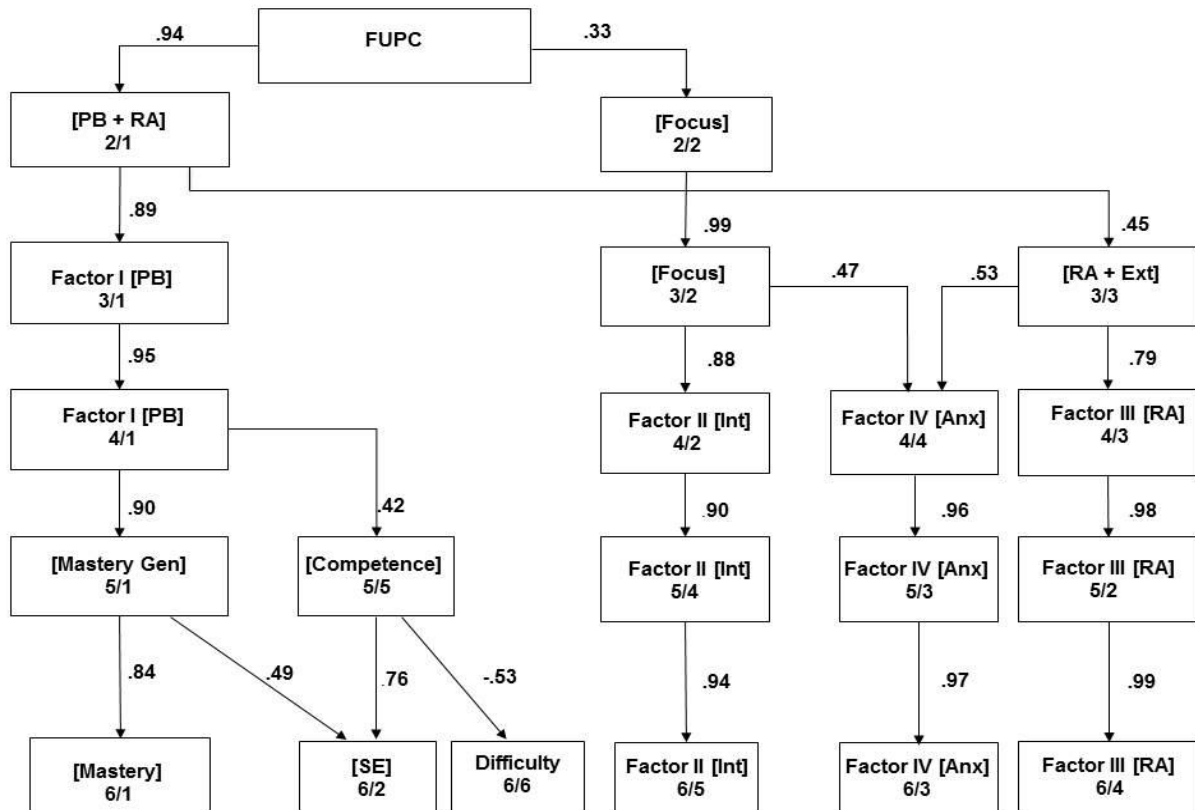


Figure 2. Varimax-rotated components derived from CSQ-items (FUPC = first unrotated principal component, PB = positive beliefs, Int = interference, Mastery Gen = mastery general; RA = reflective awareness, Anx = anxiety, Focus = focus, Ext = excitement, SE = self-efficacy).

Figure 2 shows how the factors evolve from the first unrotated factor (FUPC) to a six-factor solution. The first unrotated factors cannot be regarded as a general factor, as four items had no loading ($< .10$) at all and seven items yielded loadings lower than $.30$. All items higher than $.50$ are from the scales 3 to 6. At the next level, this factor still exists in a highly similar meaning (all items $> .50$ are from scales 3, 4, 5, and 6), and a second Varimax-rotated factor emerges which has nine loadings higher than $.50$ and they are all from scales 2 and 7. This factor (V2.1) was called “focus”, as it includes aspects of anxiety and cognitive interference. In the third step, we find the factors of positive beliefs (V3.1) and focus again; they are almost unchanged. The new factor (V3.3) is mainly loaded by items, which belong to the scales of attention with some from emotional attention after shift, plus a component of excitement. It is, then, called “reflective awareness and excitement”.

At the next step, a new factor of “anxiety” (V4.4) appears that has five loadings $> .40$ and the items primarily come from the anxiety scale. This new factor yields some of the substance of the prior factors of “focus” and “reflective awareness and excitement”, which is now purer than at the step before, as they got rid of the components of anxiety and excitement, respectively. Factor V4.3 (“reflective awareness”) now has seven items $> .40$ and they come from scales 1 and 8; clearly, the excitement component does not fit anymore. Likewise, stripping anxiety off the former Factor V3.2 leaves a factor exclusively defined by items from cognitive interference scale and it is now called “interferences” (V4.2). These three factors (interferences, anxiety, and reflective awareness) remain relatively unchanged until the six-factor structure. Factor V4.1 is again the positive beliefs. The five and six factor solutions were examined as well, and they consist of a gradual splitting up of the positive

beliefs factor. It should be remembered that the intercorrelations among the four scales was .66 and that this domain hardly can be separated into orthogonal factors. Indeed, the resulting factors only exist for one level and then change again. For this reason, we decided to stop at the fourth level. This solution was considered the best and an oblimin rotation was performed to optimise the factor pattern, which is presented in Table 2.

The four factors accounted for 49.5 per cent of the total variance. The first factor (V4.1, “positive beliefs”) is loaded by 13 items representing the self-competence and self-efficacy aspects. Factor two (V4.2, “interferences”) is composed of 11 items and refers to the ability to stay concentrated during clown intervention and be able to distance oneself from emotional situations. Factor three (V4.3, “reflective awareness”) is composed of eight items and combines the behavioural and mental strategies acted before and after clowning. Factor four (V4.4, “anxiety”) is loaded by six items primarily based on feelings of anxiety before and during the activity as a clinic clown. Intercorrelations among the four factors were generally low, but, again, the factors of positive beliefs and reflective awareness yielded a noticeable positive correlation ($r = .22$).

In sum, it seems that there are two dimensions describing facilitating factors (positive beliefs and reflective awareness) of the clown shift. There are also two dimensions that document impairing factors of the shift, namely the amount of anxiety during preparation, and the presence of cognitive interference during the performance. Taken together, they represent a profile of individual differences that may be used to predict the success of the clown intervention. They may also be used as outcome variables for factors that represent the amount of training and experience that the clowns have but also their personality and talent. Thus, these four dimensions need validation.

Table 2. Oblimin factor patterns of the CSQ

Item	Scale	F4.1	F4.2	F4.3	F4.4
1. I take time to mentally prepare myself for performing as clown.	1	.26	-.08	.64	.18
2. I have rituals to promote the shift from my persona to my clown character.	1	.08	.10	.64	-.05
3. When I have difficulties getting into my clown character, I tend to intensify or extend the time I take for the make-up, clothing and preparation.	1	.15	.35	.43	.01
4. During the shift into my clown character / before clowning, I do exercises of concentration or meditation.	1	.13	.05	.67	.08
5. During the transformation into my clown character, I worry about not performing well.	2	-.01	.56	-.10	.46
6. During the transformation into my clown character, I usually take time to imagine what I will do.	3	.46	.42	.07	.22
7. During the transformation into my clown character, I imagine my clown character being confident during his performance.	4	.67	.04	.14	.09
8. During the transformation into my clown character, I remain calm and relaxed before clowning.	5	.16	-.40	.21	-.61
9. During the transformation into my clown character, I imagine my clown character doing his/her very best.	6	.63	-.11	.13	.21
10. During the clown activity, I tend to think about my daily concerns.	7	.02	.71	.19	-.11
11. Once I shifted into my clown character but before clowning, I am nervous.	2	-.08	.46	.11	.42
12. During the transformation into my clown, when I imagine performing a gag before clowning, I always see myself perform perfectly.	3	.67	.02	.17	-.24
13. During the transformation into my clown character, I imagine my clown character being able to deal with emotionally tough situations.	4	.83	.10	.11	-.19
14. During the transformation into my clown character, I imagine myself remaining calm during the situations I will face.	5	.82	-.11	.06	-.21
15. During the transformation into my clown character, I imagine other people telling me that I did a good job.	6	.65	.39	-.06	-.07
16. During the clown activity, I tend to think about what I will do after the activity has finished.	7	.08	.71	.13	-.03
17. Once I shift into my clown character but before clowning, I get a queasy feeling in my stomach.	2	-.17	.28	.10	.64
18. During the transformation into my clown character, I imagine what I would do if my gags did not work out	3	.39	.42	.10	.28
19. During the transformation into my clown character, I imagine my clown character being able to deal with artistically tough situations.	4	.66	.32	.16	-.07
20. During the transformation into my clown character, I get excited when thinking about the clown session to come.	5	.15	-.19	.10	.74
21. During the transformation into my clown character, I imagine patients laughing at my gags.	6	.71	.25	.17	.10
22. During the clown activity, I tend to get lost in thoughts about the patient's situation.	7	.10	.48	.18	.22
23. Once I shift into my clown character but before clowning, I notice that my heart beats faster than usual.	2	.12	.10	.08	.80
24. During the transformation into my clown character, I imagine new gags to perform.	3	.50	.10	.19	.26
25. During the transformation into my clown character, I see my clown character remaining positive after a mistake.	4	.67	-.01	.21	.09

26. During the transformation into my clown character, I think how thrilling clowning is.	5	.58	-.19	-.02	.29
27. During the transformation into my clown character, I see my character as a good clown.	6	.75	-.09	.05	-.07
28. During the clown activity, I tend lose in thoughts about gags that did not work.	7	.19	.72	-.09	.08
29. After the clown activity, I take a specific time to mentally switch from my clown character to my everyday persona.	8	.17	-.07	.62	.17
30. After the activity, I have routines to promote the switch from my character to my persona.	8	.03	.16	.69	-.18
31. Soon after the clown activity, I share my emotions in some ways (writing, talk to colleagues, etc.).	8	.11	-.50	.18	-.05
32. After the activity, I take a specific time to reflect on what happened.	8	.15	-.14	.65	.09
33. After the activity, I think how I have utilised the props.	8	.25	-.38	.36	.29
34. After the activity, I remove myself from the institution as quickly as possible.	8	-.17	.10	.21	-.10

Factor Intercorrelations

F4.1 Positive beliefs	1.00	.13	.22	.02
F4.2 Interference	.13	1.00	.07	.12
F4.3 Reflective Awareness	.22	.07	1.00	.05
F4.4 Anxiety	.02	.12	.05	1.00

Notes. N = 130. Extraction Method: Principal Component Analysis. Factor loadings > .30 are in boldface. F4.1 = Positive beliefs; F4.2 = Interference; F4.3 = Reflective Awareness; F4.4 = Anxiety.

3.5 The four dimensions and training, experience, and skills of clowns

The scores of four factors of the CSQ were correlated with the sociodemographic variables, duration of training, years of experience, etc. The training was divided into theoretic aspects ($M = 65.01$, $SD = 53.30$, range: 0 to 200 hours) and techniques ($M = 74.32$, $SD = 59.94$, range: 0 to 350 hours). The results are presented in Table 3 and Table 4.

Table 3. Correlations of CSQ factors with the sociodemographic and training variables

	F4.1 Positive Beliefs	F4.2 Interference	F4.3 Reflective Awareness	F4.4 Anxiety
Gender	.13	.03	-.08	.35**
Age	.02	-.13	.07	-.20*
Instruction	-.08	.07	-.08	.02
Training completed (0 = no, 1 = yes)	.14	.13	-.09	.16
Training (in hours)				
Total	-.08	.17	.30**	-.19*
Theory	.00	.12	.36**	-.18
Techniques	-.06	-.01	.28**	-.19*
Psychology	.12	.20*	.23*	-.10
Internship	-.02	.08	.22*	-.04
Training	.08	-.13	.00	.11
Years of activity	-.10	-.14	.20*	-.20*
Hours per week	-.01	-.13	.12	-.17
Last year courses	-.04	-.14	.02	.02
Payment	-.08	.00	.24**	-.28**

Note. $N = 130$. Instruction = level of educational instruction received; Training completed = has the clinic clown finished the training (0 = no; 1 = yes), Training Tot. = total amount of hours of training, Theory = amount of theory (hours), Techniques = amount of techniques (hours); Psychology = amount of psychological aspects taught (hours), Internship = amount of internship; Training = training conducted by trainers with experience; Hours per week = amount of hours of activity per week; Last year courses = the clown attended any course during the last year (0 = no; 1 = yes); Payment = does the clown get money (0 = no; 1 = yes).

* $p < .05$. ** $p < 0.1$.

Table 3 shows that positive beliefs have no correlates at all. Interferences are more frequent among those with more psychological knowledge. This appears counterintuitive at first, but might be due to the tendency of people with higher knowledge to pay more attention to psychological aspects and be more concerned about patients' health. The third factor (reflective awareness) correlated positively and significantly with all the aspects related to the training attended, except having attended a course held by trainers with specific competences. This factor also correlates positively with the years of activity and payment: clinic clowns who earn money for their work were found to score higher on reflective awareness. This factor might be seen as a matter of amount of training. Finally, anxiety is higher among females and those of younger age. This factor also correlates negatively with the total amount of hours of training carried out and with the amount of hours spent learning techniques to become a clinic clown. Moreover, clowns who perceive money show a minor degree of anxiety. It also correlates negatively with the years of activity. It seems that the years in training reduce anxiety and enhance reflective awareness. Thus, these intercorrelations probably emerge because of individual differences in overall professionalism.

Table 4. Correlations of CSQ factors with abilities, psychological knowledge, and self-perception of clowning

	F4.1 Positive Beliefs	F4.2 Interference	F4.3 Reflective Awareness	F4.4 Anxiety
Choice	.02	.01	-.05	.03
Preference for setting	.20*	.11	-.08	.14
Satisfaction with activity	.22*	-.30**	-.02	-.26**
Disturbance of staff	-.02	.29**	.17	.07
Easy working with partner	.11	-.28**	.05	-.17
Always same partner	.06	.27**	.11	-.14
Pre				
Jugglery	-.00	.10	.01	-.11
Magic	.01	.09	.02	-.17
Gags	.01	.09	.07	-.15
Balloons	.03	.07	.10	-.16
Music	.13	.10	.16	.17
Puppets	.07	.08	.13	-.08
Mime	.12	.19*	.15	-.16
Improvisation	-.01	.03	-.03	-.17
Now				
Jugglery	.12	-.06	.06	-.13
Magic	.05	-.15	.09	-.21*
Gags	.08	-.19*	.08	-.38**
Balloons	.00	-.17	.07	-.31**
Music	.12	.15	.13	-.02
Puppets	.09	-.02	.18*	-.15
Mime	.10	.11	.19*	-.21*
Improvisation	-.03	-.20*	.26**	-.22*
Knowledge				
Developmental	.08	-.21*	.19*	.03
Adults	.00	-.17	.16	-.02
Elderly	.08	-.10	.17	-.07
Oncology	.17	-.12	.24**	-.06
Humor	-.03	-.22*	.36**	-.10
Intercultural	.02	.01	.38**	-.01
Pedagogy	-.01	-.23*	.25**	.02
Communication	-.01	-.26**	.11	-.09
Hygiene	.03	-.37**	.12	-.13
Burnout	.04	-.34**	.18*	-.08
Deontology	.09	-.30**	.29**	-.21*

Note. N = 130. Choice = clown choices were performing; Preference = the most preferred setting where the clown perform; Satisfaction with activity = degree of satisfaction at the end of activity; Disturbance of staff = perception to disturb healthcare staff; Easy working with partner = if the clown finds easy to work with partners; Always same partner = clown usually works with the same partner; Pre (Jugglery) = how much the clown felt confident before the course in every abilities (in brackets); Now (Jugglery) = how much the clown feel confident now in every abilities (in brackets); Knowledge (Developmental) = how much the clown know of every psychological topic (in brackets) (all these variables were assessed by a Likert scale from 1 = totally disagree to 7 = completely agree)

* $p < .05$. ** $p < 0.1$

Table 4 shows the correlations between the four factors and variables related to the habitual aspects of the work in health settings. Clowns that reported high scores in positive beliefs were the ones who showed a higher degree of satisfaction at the end of activity, as they indicate to have the opportunity to choose in which setting to perform. Clowns scoring high in interference tend to be low in degree of satisfaction at the end of the activity; they find working with different partners less easy and choose to work with the same partner. They also see themselves as disturbing the healthcare staff. Interestingly, this factor negatively correlates with the knowledge in several areas of psychology: clowns who know more about psychological aspects are more prone to be focused on their activity and less likely to lose attention. A similar tendency also appears in the third factor. Positive correlations have been identified between reflective awareness and the ability to use puppets, improvisation and be good at mime. Correlations with the fourth factor show that anxious clowns tend to be not satisfied at the end of the activity. They also report a lower ability in specific techniques, such as magic, gags, balloons, mime, and improvisation. Since this factor also negatively correlates with age and years of activity, it can be assumed that older, more experienced and more skilled clowns tend to feel less anxiety during preparation and after shifting, also due to the major skills gained during the course of their experience. Overall, the correlations between the four dimensions of the clown shift and its predictors were relatively low and this requires an explanation. One explanation is that the scales might not be too reliable or valid. The former can be ruled out by the coefficients reported in Table 3 and Table 4. The latter seems unlikely too, as the items had content validity. One reason might be that the clown shift is affected by a multitude of factors and all only may have a smaller share of the criterion variance. The passage from own persona to clown persona may be based on training and practice, but, underneath, there will also be individual differences in talent and personality. A simultaneous consideration of all factors might yield a higher overall prediction. Future studies will show whether the four dimensions of clown shift are related to personality.

4. Discussion

The present paper is the first to identify and investigate the relationships and the aspects, which promote or interfere with the cognitive shift from one's regular persona to the clown persona and vice versa. The main aim was to develop a set of items with a good enough basis to study the clown shift process, but not to establish a definitive scale yet. Four dimensions were identified as significant in influencing this shift: positive beliefs, interference, reflective awareness, and anxiety. Two of these, positive beliefs and reflective awareness, represent facilitating factors of the clown shift, while anxiety experienced during the preparation and the presence of cognitive interference during the performance are two dimensions that impair the shifting process.

The most important factor seems to be reflective awareness, which is highly related to the shift from the own persona to a clown persona and vice versa, by taking a specific amount of time for mental preparation, using rituals, doing exercises of concentration and meditation, both before and after the activity. Previous studies show that clinic clowns play a role and are protected by it (Gervais et al. 2006; Grindberg et al. 2012). Maintaining the line between reality and play is important to respect the patient's emotional and physical boundaries. In order to achieve this boundary, structured routine acts as a trigger (Lonsdale & Tam 2007) and helps to achieve and remain in an optimal emotional, high self-expectant, confident, and focused state, just before and during execution (Singer 2002). Reflective awareness correlates with the years of activity and it seems to be achieved by longer training (both theoretical and practical), the length of the internship carried out to become a clinic clown, the level of

experience and competence in the field. These findings show that reflective awareness is a positive characteristic that permits clowns to be more focused on and attentive to their work and the procedures undertaken. Clearly, reflective awareness is a matter of training. This is probably due to the characteristic of conscious people who, being more interested in the field, choose to attend longer trainings. This factor also reflects the competences in clowning: clinic clowns scoring higher in this scale are the ones who earn money for their work. Usually, clown care units that provide payment are also the ones that run longer trainings, which can lead to the hypothesis that more trained clinic clowns are more attentive to the procedure undertaken before and after shifting, more conscious about the importance of their role, and more skilled than others.

Positive beliefs represent the tendency to see oneself as a good clown and be able to do a good job, even when being faced with touching situations. This dimension, similar to self-efficacy, seems to represent the beliefs in one's capacities to organise and execute the courses of action required to produce given attainments (Bandura 1997). It does not seem to be strictly related to the training, and it can be assumed that it is more related to personality and individual feelings about beliefs in one's own ability to succeed as a brilliant clown. A positive evaluation of one's skill, hence, can be related to a higher self-efficacy and self-esteem, independent from the training attended. The correlations with the opportunity to choose which setting to perform in and with the degree of satisfaction at the end of the activity can also be related to individual characteristics of self-efficacy and personal tendency to be satisfied and happy after the activity. Positive personal and environmental factors were found to increase work engagement in nurses, which in turn improve positive behaviour at work (Salanova et al. 2011). Therefore, results of this study do not allow us to assume which elements are related to this factor. Probably, useful information can be found relating this factor to personal characteristics such as self-efficacy, optimism, and personality traits.

Clown shift seems to be impaired by two dimensions: cognitive interference and anxiety. Cognitive interference represents the tendency to be anxious before starting the activity and to lose concentration on the task while facing touchy situations. Similar to other fields such as performance achievement and sport (e.g. Dolcos & McCarthy 2006; Hatzigeorgiadis & Biddle 2004), this represents the worrying element. It is influenced by age, since younger and less experienced people tend to be more anxious, probably due to less experience in the field. This dimension can appear as a sort of beginners' factor: people who are younger (more often females) are not able to use the props properly and they tend not to get payment. Moreover, clowns who are not, or do not perceive themselves as, skilled are more likely to get lost in thoughts not related to the activity, maybe due to lack of competences. This factor, out of the four, appears to be the one that is setting-related: people scoring high in this factor perceive their work as disturbing medical procedures and they feel less satisfied at the end of the activity. People scoring higher in this factor tend to work with the same partner; clowning with different partners could represent a stressor that they may be not able to deal with. Interestingly, this factor is related to the psychological training received. Probably, the more people know about psychological aspects, the more they pay attention to them during activity and the less they feel competent, because they know that there are many things to pay attention to. A way to decrease cognitive interference may be to focus more on specific aspects during the training, such as the improvement of adaptive coping strategies in order to reduce mental avoidance while interacting with patients.

Anxiety represents the other impairing factor. This factor is detrimental to the shift, since inhibits the attentional control necessary to perform the task. Moreover, anxiety limits the capacity to resist to the disruption of interference from task-irrelevant stimuli (Eysenck et al. 2007). Younger and female clinic clowns tend to experience a higher rate of anxiety before

clowning, once they have shifted. Anxiety seems to be a factor related both to age and experience, as less experienced clowns (both in terms of length of training and years of activity) score higher in anxiety. The more experience people possess, the more competent in clowning skills they are (e.g. magic, gags, and balloons) and the less anxious they are. This factor also impairs the perceived satisfaction. This dimension can be identified as performance anxiety (Meyer-Dinkgräfe et al. 2012) that can be reduced by providing a longer training, including both a larger number of hours dedicated to techniques and psychological aspects. Moreover, including a specific block of lessons focused on coping strategies could be a valuable way to let people be able to deal with stressors.

This was the first step in establishing the concept of clown shift; i.e. the passage from own persona to clown persona and vice versa. The present paper dealt with exploring the concept, but not establishing a definitive scale yet. To accomplish this, items needed to be written, which were used to examine the dimensionality of the construct and to establish some correlations, which can be considered as provisional evidence for the validity of the concept. The main aim was to develop a set of items to study the clown shift. No attempt to develop a definite scale was undertaken, and we worked with factor scores rather than computing scales for which indices of reliability and validity can be derived. Once we have learned enough by using this pilot instrument, we can consider turning this set of items into a proper scale and establish its reliability, validity and utility in the training of clowns. For this aim, possibly, some new items will need to be written.

To sum up, the present paper shows that there are some dimensions that can promote and some dimensions that can be detrimental to the shift from one's own persona to the clown persona. The instrument we created provided useful information to better understand basic aspects related to the shift process and how it is affected by the training of clinic clowns. As mentioned in the literature (Dionigi et al. 2012; Koller & Grisky 2008), clowning in health settings collects together a large variety of practitioners from well-intentioned volunteers to professional clowns, who adapted their behaviour and knowledge for the health setting. The dimensions found are of essential importance in establishing reliable constructs that can be used to represent a profile of individual differences useful to predict the success of the clown intervention. Generally speaking, the results presented do not involve personality characteristics: Anxiety and cognitive interference may be related to specific personal traits such as neuroticism. This trait, being a core component of personality, could interfere with the ability to stay focused, even after having attended a long practical training. Moreover, clinic clowns who are more prone to focus on psychological aspects may be easily concerned by touchy situations about patients' health.

There are limitations that are important to acknowledge. The questionnaire was not able to clearly distinguish between the different supposed scales (i.e. the four scales on imagery), but since they shared similar constructs, they have been clustered in a single factor. Another limitation concerns participants involved: as the entire sample is composed of Italian clinic clowns, further investigations are needed to validate the results in other cultures and nationalities. Moreover, the majority of the participants were volunteers and this factor could have had some influence. In the future, a comparison between volunteers and professional clinic clowns could show differences. While the return rate was quite normal for such survey (i.e. 61 per cent), we need to acknowledge that the results might not be representative of the entire clown population. Nevertheless, so far, this is the first study involving such a large sample of clinic clowns. A further limitation of this study was not to have evaluated the differences between the two different clown characters: the *Auguste* and the *Whiteface*. People playing different characters may possess different strategies to promote the clown shift. Moreover, we mainly focused on the aspects that interfere with the clown shift. Future studies

should focus on the promoting aspects. As clinic clowns often work in pairs, it would also be necessary to include this variable in the future development of the clown shift questionnaire: the presence of another person may have some influence on the different dimensions of the shift. In this study we have mainly included clinic clowns that have undergone a specific training. This aspect might represent a selection bias. In the future, it is necessary to include a wider spectrum, representative of the less trained clowns.

Future studies may address the question about possible differences between volunteers and professionals. Even though the first clowns working in hospital were professionals, nowadays a large number of volunteers are approaching this practice. Volunteers may be less trained and skilled compared to professional counterparts and this can affect some dimensions of the clown shift. Future research should continue the process of validation of the Clown Shift Questionnaire. In the present piece of research, useful concepts promoting or impairing the shift have been discovered, but a definitive pool of items has not been defined. Furthermore, future studies should focus on identifying other relevant domains that play a role in influencing the clown shift. There are some aspects that have not been investigated and that can have a key role, such as personality traits and emotional intelligence. Moreover, results discussed in this study could gain more validation by including data other than self-report, with special reference to clown abilities. Competence in clowning has been evaluated by a self-report measure: we don't know whether the clinic clowns' self-perception differs from peer-rating perception of skills.

In conclusion, previous studies on clinic clowns have mainly focused on clown intervention, without investigating relevant aspects that may contribute to a successful intervention such as the shifting into the clown persona. This is the first study that introduces and focuses on the clown shift, providing an overview of the complexity of this mechanism.

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* Correspondence concerning this article should be addressed to Alberto Dionigi, Department of Education, Cultural Heritage and Tourism, University of Macerata, Piazzale Luigi Bertelli (Contrada Vallebona) – 62100 Macerata, Italy. E-mail: alberto.dionigi@unimc.it

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