

ABSORPTION, HYPNOTIZABILITY AND CONTEXT: NON-HYPNOTIC CONTEXTS ARE NOT ALL THE SAME

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Abstract

We examined the relationship between absorption and hypnotizability when absorption was assessed in two non-hypnotic conditions: In an 'imagination' condition in which we administered the Tellegen Absorption Scale (TAS) with a number of other questionnaires that assessed imagery and imagination, and in a 'classroom' condition in which we administered the TAS alone at the beginning of a normal tutorial class. We found a significant correlation between absorption and hypnotizability in the imagination condition ($r = 0.24$), but not in the classroom condition ($r = 0.09$). In other words, the assessment of absorption in a condition that elicited imaginative responses led to a higher correlation than the assessment of absorption in a condition that did not encourage imagination. This finding is discussed in terms of how different settings influence the expression of the personality characteristic of absorption.

Key words: Hypnotizability, absorption, context effects, personality assessment, individual differences, hypnosis

Introduction

As a personality characteristic that involves an openness to experience emotional and cognitive alterations across a variety of situations, absorption (Tellegen and Atkinson, 1974; Tellegen, 1981) has been found to correlate with hypnotizability generally and with response to particular hypnotic suggestions (such as cognitive items; Balthazard and Woody, 1992). When absorption is assessed by the Tellegen Absorption Scale (TAS) (Tellegen and Atkinson, 1974; Tellegen, 1981) and hypnotizability is assessed by a standardized measure such as the *Harvard Group Scale of Hypnotic Susceptibility, Form A* (HGSHS:A; Shor and Orne, 1962), the strength of the relationship between these two measures is generally small to moderate (for review, see Roche and McConkey, 1990). This empirical relationship is consistent with the theoretical links between the everyday aspects that are indexed by the TAS and the unusual experiences that are the basis of the HGSHS:A.

Tellegen's (1981) formulation of the construct of absorption recognized that it is a trait that is inherently interactive with the situation. In other words, the expression of absorption as an individual difference depends in part on the circumstances of its measurement (see also Roche and McConkey, 1990), and various studies have reported that variables such as recent life experience or instructional set may influence absorption scores (e.g. Barabasz et al., 1983; Fabian and Fishkin, 1983). For instance, Fabian and Fishkin (1981) found that absorption scores increased when they

asked marijuana users to consider their drug experiences exclusively when completing the TAS, and decreased when they asked them to exclude their drug experiences. These findings underscore that TAS scores are influenced by overt and covert messages of the test settings. In this sense, some conditions may focus subjects on internal events similar to those indexed by the TAS, and may make personal imaginative experiences more salient and accessible; in such contexts, the construct of absorption may be expressed more readily or to a greater degree.

The empirical relationship between absorption and hypnotizability suggests that the hypnotic context is one of those situations that maximizes or potentiates the expression of absorption. Nevertheless, this relationship has been the focus of ongoing debate. Some investigators have argued that it is a genuine one that is relatively uninfluenced by the context in which the measures are taken (e.g. Glisky et al., 1991; Nadon et al., 1991; Perlini et al, 1992), whereas others have argued that the relationship is an artifactual one that is determined largely by the context in which absorption is assessed (e.g. Council et al., 1986; Kirsch and Council, 1992; Council, 1993; 1997; Council et al., 1996). For instance, Council et al. (1986) initially argued that when individuals completed the TAS in a hypnotic context, they developed an expectancy about hypnosis and/or their hypnotizability on the basis of their TAS responses. In turn, this expectancy influenced their responses on the measure of hypnotizability, such as the HGSHS:A. Accordingly, these investigators argued that when absorption and hypnotizability were tested in the same context, the relationship between these two measures was determined largely by the context-generated expectancy of a relationship.

More recently, Council et al. (1996; see also Council, 1997) argued that:

‘whether absorption or hypnotizability is assessed first, within the same research situation subjects should formulate self-appraisals based on their performance on the initial measure. Based on their understanding of the measures, they will strive to make performance on the second measure consistent with that on the first’ (pp. 59–60)

That is, Council et al. (1996; see also Council, 1997) argued for a notion of self-consistency, in which individuals are motivated to present themselves consistently across measures such as absorption and hypnotizability. Specifically, in situations in which individuals perceive the measures to be related (e.g. in an hypnotic context) they are more likely to respond consistently across the measures than they are in situations in which they perceive them to be unrelated (i.e. in a non-hypnotic or separate context). In support of this, Council et al. (1996) conducted a meta-analysis of the data of approximately 4000 subjects across 12 studies that have examined the influence of context on the relationship between absorption and hypnotizability. They categorized the settings in the studies as hypnotic or non-hypnotic, and argued that some studies inadvertently established a hypnotic context rather than a non-hypnotic context; of course, the original investigators could dispute these categorizations. Nevertheless, Council et al. (1996) concluded that the correlations between hypnotizability and absorption when absorption was measured in non-hypnotic contexts were significantly and substantially smaller than those obtained when it was measured in an ‘hypnotic’ context.

This focus on the influence of the hypnotic setting, as opposed to non-hypnotic or independent settings, on the relationship between absorption and hypnotizability fails to take account of the original notion that absorption is inherently interactive with the situation (Tellegen, 1981). More importantly, there appears to

have been an assumption that in comparison to the hypnotic context, the nature of the non-hypnotic context will have relatively little influence on how subjects complete the TAS, and thus will have relatively little influence on the empirical relationship between absorption and hypnotizability. In this sense, in the literature one non-hypnotic context has been seen as pretty much like another non-hypnotic context. However, across the studies considered by Council et al. (1996), as well as in other studies, there has been substantial variation in the nature of the non-hypnotic or independent contexts, and substantial variation in the correlations between the variables and the demonstration of a context effect. For instance, in some studies the TAS has been administered as part of large-scale testing of students in introductory psychology courses, whereas in others it has been administered together with various other measures to small groups (e.g. Drake et al., 1990; Perlini et al., 1992; Oakman et al., 1996). The apparent assumption of essential similarity of non-hypnotic contexts would seem to underestimate the degree to which individuals may use whatever cues exist in the setting to guide their interpretation of and response to the measurement of absorption, and thus influence the degree to which some settings more so than others may potentiate the expression of absorption and the relationship between absorption and hypnotizability (see also Roche and McConkey, 1990; Oakman et al., 1996).

We examined the effect on the relationship between absorption and hypnotizability of measuring absorption in different non-hypnotic testing contexts. Specifically, we examined whether two non-hypnotic contexts would be different in how they influenced performance on the TAS, and in how they influenced the relationship between absorption and hypnotizability. The TAS was administered in an 'imagination' condition in which there were a number of other questionnaires that assessed imagery and imagination, and in a 'classroom' condition in which it was given alone at the beginning of a normal tutorial. The hypnotizability of subjects was assessed independently when they were given the HGSHS:A some months before administration of the TAS.

In summary, we explored whether the assessment of absorption in a condition that included other measures that elicited imaginative responses would lead to a stronger relationship between absorption and hypnotizability than would the assessment of absorption in a condition that did not encourage imagination.

Method

Three hundred and seventy-one subjects were tested in either an imagination condition or a classroom condition. Testing for the imagination condition was conducted during one academic year, and testing for the classroom condition was conducted during the following academic year.

Imagination condition

One hundred and seventy (136 F; 34 M) undergraduate psychology students at the University of New South Wales, Sydney, Australia, of mean age 24.48 years (sd = 8.29) were tested in the imagination condition. At the beginning of the Australian academic year (March–April), they were recruited via a noticeboard announcement to participate in 'Hypnosis Group Testing' in exchange for research credit. They were given the audiorecorded HGSHS:A in groups of 3–30 in a standard classroom setting.

The HGSHS:A consists of 12 suggestions (head falling, eye closure, hand lowering, arm immobilization, finger lock, arm rigidity, hands moving apart, communication inhibition, hallucination, eye catalepsy, post-hypnotic suggestion, and amnesia) which are scored as pass (1) or fail (0); total scores range from 0 to 12.

Later in the year (August–September), the students were recruited via a noticeboard announcement to participate in an ‘Imagination Study’ in exchange for research credit. In that study, the TAS was administered in a package of randomly ordered questionnaires on imagery and imagination.

The TAS consists of 34 items (e.g. ‘I like to watch cloud shapes in the sky’, ‘Sometimes I experience things as if they were doubly real’, ‘I find that different odours have different colours’) and subjects indicate whether each of the statements is true (1) or false (0) for them; total scores range from 0 to 34.

The other questionnaires in the package were the *Betts’ Questionnaire Upon Mental Imagery* (QMI; Sheehan, 1967), the *Test of Visual Imagery Control* (TVIC; Gordon, 1949), and the *Launay–Slade Hallucination Scale* (LSHS:A; Launay and Slade, 1981); the subjects were tested in groups of 3–30 in a standard classroom setting.* Different personnel in independent settings conducted the hypnosis and questionnaire sessions.

Classroom condition

Two hundred and one (155 F; 46 M) undergraduate psychology students at the University of New South Wales, of mean age 20.0 years ($sd = 4.76$), were tested in the classroom condition. At the beginning of the Australian academic year (March–April), they were recruited via a noticeboard announcement to participate in ‘Hypnosis Group Testing’ in exchange for research credit. They were given the audiorecorded HGSHS:A in groups of 3–30 in a standard classroom setting.

Later in the year (late May), all students in the first year psychology course completed the TAS at the beginning of a tutorial; the tutorials involved 18–25 students. Different personnel in independent settings conducted the hypnosis and classroom sessions.

Results

Imagination subjects had a mean TAS score of 22.07 ($sd = 5.81$) and a mean HGSHS:A score of 6.31 ($sd = 3.04$). Classroom subjects had a mean TAS score of 21.21 ($sd = 5.10$) and a mean HGSHS:A score of 7.07 ($sd = 2.63$). Although there was no difference between the TAS scores, $t(368) = 1.51$; $p < 0.15$, for these two conditions, imagination subjects had a lower mean HGSHS:A score than did classroom

* The QMI consists of 35 items, with five items in each of seven sensory modalities (visual, auditory, cutaneous, kinaesthetic, gustatory, olfactory and organic). For example, subjects are asked to imagine ‘the face of a friend’ or ‘the smell of roast beef’ and are then asked to rate the vividness of the resulting image on a seven-point Likert scale, where 1 means ‘perfectly clear and vivid as the actual experience’ and 7 means ‘no image present at all, you only ‘know’ that you are thinking of the object’; scores range from 35 to 245.

The TVIC consists of 12 items in which subjects are instructed to imagine an automobile and then to transform that image in a number of ways. For each item, subjects are asked to indicate whether they can imagine or control the requested scene, and awarded a score of 1 if they indicate ‘yes’ and 0 if they indicate ‘no’; scores range from 0 to 12.

The LSHS:A consists of 12 items in which subjects are asked to indicate the degree to which statements describing normal and pathological aspects of hallucinations apply to them on a five-point Likert scale where 0 means ‘certainly applies’ and 4 means ‘certainly does not apply’; scores range from 0 to 48.

** The assumption of equal variances was violated for this t-test, as indicated by Levene’s Test for the Equality of Variances, $F = 8.44$; $p < 0.01$. However, a Wilcoxon–Mann–Whitney test (Siegal and Castellan, 1988) confirmed the difference between groups.

subjects, $t(369) = 2.56$; $p < 0.01$.** For imagination subjects, there was a significant correlation between TAS and HGSHS:A scores, $r = 0.24$; $p < 0.005$, and for classroom subjects there was not, $r = 0.09$; $p < 0.20$. The difference between these correlations approached significance ($z = 1.48$; $p < 0.07$). In other words, the relationship between absorption and hypnotizability was stronger when absorption was assessed in the imagination condition, in which three other measures of imagery and imagination had been included.*** To explore this finding in more detail, we conducted a multiple regression analysis using HGSHS:A scores as the criterion variable and TAS scores and condition (imagination, classroom) as the predictor variables. For this analysis, $R^2 = 0.05$; $F(3,366) = 6.74$; $p < 0.001$. Most of the variance in hypnotizability scores was accounted for by absorption scores ($\beta = 0.241$; $t = 3.42$; $p < 0.001$) and condition ($\beta = 0.433$; $t = 2.12$; $p < 0.035$); the interaction between absorption and condition was not significant ($\beta = -0.307$, $t = -1.46$, $p < 0.146$), however.

Discussion

The assessment of absorption in a condition that included other measures that elicited imaginative responses led to a significant correlational relationship between absorption and hypnotizability, whereas the assessment of absorption in a condition that did not encourage imagination did not lead to a significant relationship. This suggests that non-hypnotic contexts are not the same in the influence that they potentially exert on the relationship between absorption and hypnotizability. Notions of the influence of expectancy or consistency across the assessment of absorption and hypnotizability (Council et al., 1986, 1996; Council, 1997) may not fully account for this finding, because absorption and hypnotizability were assessed at different times in independent settings that involved different personnel. The finding could be accounted for, however, by the notion that the specific nexus of cues in the setting in which absorption was assessed influenced the responses of individuals on the TAS (see Fabian and Fishkin, 1981; Oakman et al., 1996; Roche and McConkey, 1990).

From this perspective, Oakman et al. (1996) argued that giving the TAS in a non-specific setting may lead to idiosyncratic responding, whereas giving it in a setting that had specificity and meaning would lessen idiosyncratic responding; in turn, this would maximize the relationship of subjects' TAS score with any measure that was consistent with the meaning of the context in which absorption had been measured. Relatedly, Roche and McConkey (1990) and Oakman et al. (1996) argued that the nature of some settings might encourage subjects to think about experiences that would lead them to respond in particular ways on the individual items of the TAS; in other words, the contextual cues would prime their recall of certain life-experiences and this would lead subjects to respond in particular ways on the TAS (see also Barabasz et al., 1983). Also, Oakman et al. (1996) indicated that when completing the TAS subjects have to make a judgement about responding in terms of the intensity or frequency of their experience of the various items, and different subjects may respond differently in this respect. Again, the communications of the setting may lean subjects toward responding on the basis of intensity or frequency, and this may influence the relationship of absorption with other variables, such as hypnotizability. From among these possible

*** The TAS correlated significantly with the QMI ($r = -0.33$, $p < 0.001$; QMI $M = 88.45$; $sd = 22.30$), the TVIC ($r = 0.27$; $p < 0.001$; TVIC $M = 8.82$; $sd = 2.40$), and the LSHS:A ($r = 0.67$; $p < 0.001$; LSHS:A $M = 23.80$, $sd = 7.78$); the HGSHS:A did not correlate significantly with any of these measures.

explanations, our findings are most obviously consistent with the notion that the tacit specificity of the imagination condition cued subjects to respond on the TAS in a way that increased the likelihood of a relationship between their absorption scores and their level of hypnotizability, even though hypnotizability was measured quite independently. In contrast, the nonspecific (or even non-imaginative) nature of the classroom condition did not cue subjects to respond on the TAS in such a way. It should be noted that for all of our subjects, hypnotizability was assessed some months prior to absorption. Thus, all subjects had a hypnotic life experience to which they could potentially refer. In this sense, it would be useful to examine more closely the effect of different prior life experiences on the measurement of absorption.

This interpretation of the relationship between absorption and hypnotizability as reactive to the specific testing situation is consistent with the argument of Tellegen (1981; see also Roche and McConkey, 1990) that personality variables, such as absorption and hypnotizability, are inherently contextual. This means that they become apparent in settings that are consistent with and encouraging of their existence and expression. In other words, the capacity for absorption becomes apparent when the context is one that encourages the individual to display that capacity; that is what appears to have occurred in the imagination condition in the present experiment. In this sense, there is no question that contextual factors play a role in the assessment of absorption, the assessment of hypnotizability, and the relationship of absorption and hypnotizability (Roche and McConkey, 1990). However, it is important to highlight that that role is an integral rather than an artifactual one.

The importance of recognizing and understanding the interaction of external and internal factors is a point that has been made across research in personality as a whole (e.g. Bowers, 1973), across research conducted in the psychological laboratory generally (e.g. Kihlstrom, 1995), and across research conducted into the phenomena and processes of hypnosis (e.g. Sheehan and McConkey, 1982). The interaction of external and internal factors in the present experiment is seen in the differential correlation between hypnotizability and absorption when the latter was assessed in contexts that either did or did not tacitly focus subjects' attention on internal events and encourage them to access personal imaginative experiences.

We acknowledge that the differential strength of the relationship between absorption and hypnotizability may have been the result of other factors (e.g. Nadon, 1997), that all of the subjects had experienced hypnotizability assessment before absorption assessment, that the difference between the correlations only approached significance, and that the multiple regression analysis indicated that the relationship between hypnotizability and absorption as assessed in the two conditions was not entirely dissimilar. In this respect, we note that the correlations that have been reported across different studies lead to an estimated population correlation of $r = 0.20$ (see Nadon, 1997; in the present study, the two samples yielded correlations of $r = 0.24$ for the imagination condition, and $r = 0.09$ for the classroom condition). More importantly perhaps, we acknowledge that hypnotizability scores differed across the conditions; subjects in the imagination condition had a lower HGSHS:A score than those in the classroom condition. Although this difference may simply reflect year-to-year variation in the population mean, it is unclear what influence it exerted on the relationship between absorption and hypnotizability. The condition with a lower mean HGSHS:A showed a stronger relationship between absorption and hypnotizability, whereas the condition with a higher mean HGSHS:A showed a weaker relationship. This result is somewhat counterintuitive (Tellegen and Atkinson, 1974; Roche and McConkey, 1990; Balthazard and Woody, 1992), but it

may be the case that in some instances the level of correlation is dependent upon hypnotizability and hypnotic experience more so than on the circumstances in which the absorption measure is completed. These results underscore the need to explore in more detail the impact of individual differences in recent experiences on the assessment of personality variables.

Overall, the findings of this experiment suggest that non-hypnotic testing contexts are not all the same in the influence that they exert directly on the assessment of absorption and indirectly on the relationship between absorption and hypnotizability. In other words, the test setting influences the expression of the trait, and that needs to be considered carefully when absorption is being assessed.

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References

- Bathazard CG, and Woody EZ. The spectral analysis of hypnotic performance with respect to 'absorption'. *International Journal of Clinical and Experimental Hypnosis* 1992; 40: 21-43.
- Barabasz M, Barabasz AF, Mullin CS. Effects of brief Antarctic isolation on absorption and hypnotic susceptibility—preliminary results and recommendations: a brief communication. *International Journal of Clinical and Experimental Hypnosis* 1983; 31: 235-238.
- Bowers KS. Situationism in psychology: an analysis and a critique. *Psychological Review* 1973; 80: 307-336.
- Council JR. Context effects in personality research. *Current Directions in Psychological Science* 1993; 2: 31-34.
- Council JR. Context and consistency: the Canadian connection. *International Journal of Clinical and Experimental Hypnosis* 1997; 45: 204-211.
- Council JR, Kirsch I, Grant DL. Imagination, expectancy, and hypnotic responding. In RG Kunzendorf, NP Spanos, B Wallace. *Hypnosis and imagination*. New York: Baywood Publishing, 1996; 41-65.
- Council JR, Kirsch I, Hafner LP. Expectancy versus absorption in the prediction of hypnotic responding. *Journal of Personality and Social Psychology* 1986; 54: 1049-1053.
- Drake SD, Nash MR, Cawood GN. Imaginative involvement and hypnotic susceptibility: A re-examination of the relationship. *Imagination, Cognition, and Personality* 1990; 10: 141-155.
- Fabian WD, Fishkin SM. A replicated study of self-report changes in psychological absorption with marijuana intoxication. *Journal of Abnormal Psychology* 1981; 90: 546-553.
- Glisky ML, Tataryn DJ, Tobias BA, Kihlstrom JF, McConkey KM. Absorption, openness to experience, and hypnotizability. *Journal of Personality and Social Psychology* 1991; 60: 263-272.
- Gordon R. An investigation into some of the factors that favour the formation of stereotyped images. *British Journal of Psychology* 1949; 39: 156-167.
- Kihlstrom JF. From the subject's point of view: The experiment as conversation and collaboration. Keynote Address present at the 7th Annual Convention of the American Psychological Society. New York, USA, 1995.
- Kirsch I, Council JR. Situational and personality correlates of suggestibility. In E Fromm, and MR Nash eds. *Contemporary Hypnosis Research*. New York: Guilford, 1992; 267-291.
- Launay G, Slade PD. The measurement of hallucinatory predisposition in male and female prisoners. *Personality and Individual Differences* 1981; 2: 221-234.
- Nadon, R. What this field needs is a good nomological network. *International Journal of Clinical and Experimental Hypnosis* 1997; 45: 314-323.

- Nadon R, Hoyt IP, Register PA, Kihlstrom JF. Absorption and hypnotizability: Context effects re-examined. *Journal of Personality and Social Psychology* 1991; 60: 144-153.
- Oakman JM, Woody EZ, Bowers KS. Contextual influences on the relationship between absorption and hypnotic ability. *Contemporary Hypnosis* 1996; 13: 19-28.
- Perlini AH, Lee SA, Spanos NP. The relationship between imaginal ability and hypnotic susceptibility: does context matter? *Contemporary Hypnosis* 1992; 9: 35-41.
- Roche SM, McConkey KM. Absorption: nature, assessment, and correlates. *Journal of Personality and Social Psychology* 1990; 59: 91-101.
- Sheehan PW. A shortened form of Betts' Questionnaire Upon Mental Imagery. *Journal of Clinical Psychology* 1967; 23: 386-389.
- Sheehan PW, McConkey KM. *Hypnosis and Experience: The exploration of phenomena and process*. Hillsdale, NJ: Erlbaum, 1982.
- Shor RE, Orne EC. *Harvard Group Scale of Hypnotic Susceptibility, Form A (HGSHS:A)*. Palo Alto, CA: Consulting Psychologists Press, 1962.
- Siegel S, Castellan NJ, Jr. *Nonparametric Statistics for the Behavioral Sciences*. New York: McGraw Hill, 1988.
- Tellegen A. Practicing the two disciplines for relaxation and enlightenment: comment on 'Role of the feedback signal in electromyograph biofeedback: the relevance of attention' by Qualls and Sheehan. *Journal of Experimental Psychology: General* 1981; 110: 217-226.
- Tellegen A, Atkinson G. Openness to absorbing and self-altering experience ('absorption'): a trait related to hypnotic susceptibility. *Journal of Abnormal Psychology* 1974; 83: 268-277.
- Young HF, Bentall RP, Slade PD, Dewey ME. The role of brief instructions and suggestibility in the elicitation of auditory and visual hallucinations in normal and psychiatric subjects. *Journal of Normal and Mental Disease* 1987; 175: 41-48.

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