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# The plausibility of the implausible: a critique of Snyder and Swann (1978)

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*Abstract*

*Snyder and Swann (1978) advance an argument that individuals display a cognitive bias in testing hypotheses about the personal attributes of other people, i.e. they seek out information which is supportive of their hypothesis (hypothesis-confirming strategy). It is argued here that these authors confound the hypothesis a person might entertain (belief) with a hypothesis the person is asked to test (assigned task). The findings of two experimental studies in which task and belief were manipulated independently suggest that Snyder and Swann's (1978) results are due to the task manipulation and not to an hypothesis-confirming bias.*

## INTRODUCTION

In their recent work on how individuals test hypotheses about the personal attributes of other people Snyder and Swann (Snyder, in press; Snyder and Swann, 1978) advance a highly provocative thesis. Based mainly on a series of four studies Snyder and Swann (1978) suggest '. . . that the structure and processes of human thought fosters and promotes the ready and willing adoption of *confirmatory strategies* for hypothesis testing' (Snyder and Swann, 1978, p. 1012, emphasis ours). Snyder and Swann's (1978) interpretation of their findings portray the human as a rather poorly adapted social animal, trapped in a cognitive process that leads to a perpetual confirmation of whatever hypothesis the person happens to entertain. To be sure, previous research in social psychology has convincingly identified *specific* conditions and mechanisms that lead to a relative resistance to change of existing beliefs *vis-à-vis* disconfirming or discrediting information (e.g. Kiesler, 1971; Ross, Lepper, Strack & Steinmetz, 1977).

Thus, it is questionable whether the hypothesis-confirming strategy in social interaction reported by Snyder and Swann (1978) is as 'general' a bias as they suggest. The argument here is that the participants in Snyder and Swann's

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(1978) studies did not pursue an 'hypothesis-confirming strategy' but acted 'rationally', within the constraints of the experimental task.

In order to elaborate on this criticism and derive the rationale of the two experimental studies to be presented, the basic procedural paradigm employed in the four studies by Snyder and Swann (1978) should be described briefly.

Female undergraduate students, expecting to participate in an investigation on how people come to understand each other, were instructed to interview an unknown target person waiting in another room. They were given the task of finding out how much that person resembled a prototypical extrovert (or introvert), described in a personality profile. To guide their interviews the participants were provided with a pool of 26 questions and asked 'to choose 12 questions that will help you *link the general characteristics in the profile with the person's likes, dislikes, and behaviors*'[1] (emphasis ours).

This question pool contained eleven questions 'typically asked of people *already known* to be extroverts' (p. 1204, emphasis in original), ten questions asked of people known to be introverts and five 'neutral' questions. From these 26 questions the subjects were asked to choose those twelve that would enable them to find out how well the profile described the target person. The frequency with which questions from each category were selected constituted the dependent variable.

This procedure was basic to all four experiments conducted. Additionally, certainty, the likelihood of the applicability of the profile and incentive for making an accurate judgment were manipulated in Snyder and Swann's (1978) research.[2] The main finding, however, was the same in all the studies. Irrespective of any of these manipulations, subjects predominantly chose the so-called 'hypothesis confirming' questions. More specifically, if the profile to be tested out was that of a typical extrovert, then more questions were chosen from the extrovert question pool. Similarly, in the case of the introvert profile, predominantly introvert questions were chosen. From these findings Snyder and Swann conclude that individuals employ a 'hypothesis-confirming strategy' when testing hypotheses about other people.

The main criticism raised in the present study is concerned with a particular confounding of the hypothesis an individual might entertain (i.e. the person's *belief*) in the experiment with a hypothesis the person is asked to test (i.e. the assigned task). This is best illustrated by the following example. Assume that you are told about an animal concealed in a room and that there is a good reason to believe that this animal might be a fish. Let us further assume that you are given the task of finding out whether the target animal matches a description of a prototypical fish and that this is to be accomplished by selecting several questions from a pool. This pool contains questions one would typically ask of animals already known to be fish (e.g. 'what do the fins look like?') and questions typically asked of animals known to be birds (e.g. 'what colour are

[1]The authors would like to thank Mark Snyder for making the instructions and experimental material available for this study.

[2]An additional study examined the impressions independent observers formed on the basis ot *only the answers* that the target person gave to the questions the subjects posed. These questions, however, were obtained through the basic procedural paradigm.

the feathers?'). Quite specifically, you are told to find out whether the target animal possesses the characteristics of the prototypical fish (e.g. colour, appearance). What type of questions would you select? Extrapolating from Snyder and Swann's findings, you would predominantly choose questions typically asked of animals already known to be fish (confirmatory strategy). It is ambiguous, however, *why* you would have selected such questions. There are at least two explanations. Your selection strategy could be determined: (a) by the hypothesis you initially entertained (that the animal in question might be a fish) or, alternatively, (b) because those questions are the only ones soliciting information relevant to your task—namely, to 'link the . . . characteristics in the profile' with the specific properties of the animal. Even if you have reason to believe that the animal in question is *not* a fish, the nature of the task dictates the selection of the type of question.[3] Precisely this ambiguity seems to be present in Snyder and Swann's studies. The argument here is that the experimental paradigm they employed invites the selection of those questions which are best associated with the particular profile, namely extrovert questions for the extrovert profile and introvert questions for the introvert profile.

Since it is crucial to know whether Snyder and Swann's (1978) results are a function of an hypothesis the subjects in their experiment entertained or simply a function of the particular task they were given, an experiment was designed in which 'hypothesis' and 'task' were varied as independent factors. The crucial conditions were those where the hypothesis given to subjects was inconsistent with the profile provided. These conditions allow the examination of whether the responses of the subjects are a result of the particular task demands (i.e. profile instructions) or, as maintained by Snyder and Swann (1978), determined by an hypothesis they entertain.[4]

Two experiments were conducted which differed in the experimental induction of the hypothesis. In the first study subjects were explicitly told that the target was likely to be an extrovert (or introvert). In the second study this manipulation was obtained through varying the information about the target person which allowed subjects to infer that the target person was an extrovert (or introvert).

[3]One might object to this example arguing that extroversion–introversion represents a contrast category and fish and birds do not (for a discussion *cf.* Cantor and Mischel, 1979; Semin and Rosch, research note; Rosch, 1978). If Snyder and Swann assume this to be the case then they should also accept that answers to introvert questions give information about the target's 'extroversion'. But then it is difficult to see why this strategy should constitute a 'hypothesis-confirming strategy'.

[4]It is important to note that the present induction of hypotheses is not to be confounded with Snyder and Swann's (1978) likelihood manipulations in two of their experiments. These authors varied the probability with which a given hypothesis would prove accurate. The present authors, however, varied the content of the hypothesis itself *independently* of the task. Snyder and Swann interpret their results which show that the question selection strategy is not affected by the likelihood of the hypothesis as follows: an hypothesis a person entertains determines the question selection irrespective of the likelihood of the hypothesis. The present authors claim that this selection strategy is even independent of any hypothesis a person might hold but solely determined by the task.

## EXPERIMENT 1

### Method

#### *Subjects*

Sixty undergraduate students enrolled in an introductory psychology class at the University of Hohenheim (West Germany) participated in this study as unpaid volunteers.

#### *Procedure*

The study was conducted as a group experiment. The experimenter gave a short and general introduction about the topic of getting to know another person and instructed the subjects to imagine that they were to ask questions to someone unknown sitting in the next room. They were to elicit answers that would allow a decision about what kind of person he was. The subjects were then provided with the translated instructions taken directly from Snyder and Swann's (1978) original study.

#### *Tasks*

Half of the subjects received the extrovert profile and the other half the introvert profile, with instructions to select nine questions that would help determine whether the target's specific beliefs, attitudes and actions in life situations matched the general characteristics described in the profile.

#### *Hypothesis manipulation*

Subjects were given different expectations about the personality characteristics of the target. One third of the participants were explicitly told that the person they would meet was most probably an introvert, another third were told that the person was probably an extrovert, and the remaining subjects were told that no information was available as to whether the target was an introvert or an extrovert.

Thus, crucial conditions were created in which subjects were led to believe that the target person was extrovert (introvert), while they were asked to test for the 'opposite' profile.

#### *Dependent variables*

The original questions employed by Snyder and Swann (i.e. eleven extroverted, ten introverted and five neutral questions) were translated into German and re-rated by 14 judges in a pilot study. Nine extrovert and nine introvert items were consistently judged as questions 'typically asked of people already known to be extroverts (introverts)'. Therefore, the only deviation from Snyder and Swann's procedure concerning the questions pool was that an equal number of extroversion (9) and introversion (9) items were included, as well as six instead of five neutral items. Furthermore, the subjects were instructed to select nine questions (instead of twelve as in the original study).

## Results

In order to examine whether the subjects' responses were a function of the 'task' or the 'hypothesis', or an interaction between those two, the numbers of extroverted, introverted and neutral questions that subjects wanted to ask the hypothetical person were analysed by a 2 (task) × 3 (hypothesis) multivariate analysis of variance. (See Table 1 for means.)

This multivariate analysis of variance yielded a highly significant main effect for the 'task' manipulation, multivariate $F_{(3,52)} = 6.049$; $p < 0.001$. However, hypothesis did not effect choice of questions, multivariate $F < 1$, nor was the interaction term significant, multivariate $F < 1$. In order to specify the nature of the main effect, the univariate analyses of variance for the three dependent variables (extroversion questions; introversion questions, and neutral questions) were examined. As Table 1 shows, subjects selected more extroversion questions when they were assigned to test the applicability of the extraversion profile ($F_{(1,54)} = 7.87$; $p < 0.001$), more introversion questions were chosen when the introversion profile was to be tested ($F_{(1,54)} = 16.82$; $p < 0.001$). Unexpectedly, neutral questions were reliably more often selected when the applicability of the extrovert profile had to be tested ($F_{(1,54)} = 7.73$; $p < 0.01$).

## Discussion

The obtained results support the argument that the selection of questions is a function of the particular task instructions. However, the direct induction of the hypothesis manipulation did not allow a meaningful manipulation check. It may therefore be argued that there is no evidence about whether subjects did or did not entertain the experimentally induced hypothesis. The second experiment was designed such that a feasible examination of the manipulation could be made.

# EXPERIMENT 2

The procedure of the second experiment was basically identical to that of the first study. The hypothesis manipulation was different in that subjects were given information that would lead them to believe that the target person was likely to be an extrovert (or introvert). Furthermore, the 'no-hypothesis' condition was omitted.

## Method

### *Subjects*

Forty-eight undergraduate students from the University of Mannheim participated in this study as paid volunteers.

### *Procedure*

The procedure was identical to the first experiment except that subjects came in groups of two or three in the experimental room and were instructed individually.

Table 1. Questions selected as a function of 'task' and 'hypothesis'

| | Task: extrovert profile | | | Task: introvert profile | | |
|---|---|---|---|---|---|---|
| Type of questions | Extrovert hypothesis ($n$ = 10) | Introvert hypothesis ($n$ = 10) | No hypothesis ($n$ = 10) | Extrovert hypothesis ($n$ = 10) | Introvert hypothesis ($n$ = 10) | No hypothesis ($n$ = 10) |
| Extrovert | | | | | | |
| M | 5.30* | 5.60 | 4.80 | 3.80 | 4.40 | 4.00 |
| SD | 1.16 | 1.65 | 1.69 | 1.75 | 1.90 | 1.41 |
| Introvert | | | | | | |
| M | 2.40 | 2.40 | 3.50 | 5.00 | 4.30 | 4.60 |
| SD | 1.74 | 1.78 | 1.96 | 1.63 | 2.26 | 1.58 |
| Neutral | | | | | | |
| M | 1.30 | 1.00 | 0.60 | 0.20 | 0.30 | 0.40 |
| SD | 1.42 | 1.05 | 1.08 | 0.42 | 0.68 | 0.52 |

*The values represent the average number of extroverted ($n$ = 9), introverted ($n$ = 9), and neutral ($n$ = 6) questions selected in each condition.

*Hypothesis manipulation*

The hypothesis manipulation was obtained through providing some particulars about the person the subjects were going to interview, i.e. his name, age, place of residence and occupation. For half of the subjects the occupation of the target person was described as a second-hand car salesman (extrovert hypothesis) and for the other half a librarian (introvert hypothesis).

*Tasks*

The tasks and their presentation to the subjects were identical to those in the first experiment.

*Dependent measures*

*Manipulation check.* To assess the effectiveness of the hypothesis manipulation, the subjects were asked to rate the target person they were going to interview on an unmarked 70 mm bipolar introversion/extroversion scale.

*Selection of questions.* As in the previous study, the number of 'extroverted' and 'introverted questions' constituted the crucial dependent variable. The pool of neutral items was reduced from six to four.

## Results

The average number of extroverted, introverted and neutral questions the subjects chose to ask the target person, as well as their assessments on the extroversion/introversion dimension can be examined in Table 2.

An examination of the effectiveness of the hypothesis manipulation by a 2(hypothesis) × 2(task) multivariate analysis of variance yielded a significant main effect for the hypothesis manipulation, multivariate $F_{(4,41)} = 8.86$, $p < 0.001$. Further, an examination of the univariate effects revealed that this main effect was only due to the manipulation check question, univariate $F_{(1,44)} = 35.14$, $p < 0.001$, and that the number of extrovert, introvert and neutral questions selected was not affected by the hypothesis manipulation, univariate $F < 1$ in all cases. The analyses suggest that the hypothesis manipulation was successful. Subjects in the 'second-hand car salesman condition' believed the target person to be significantly more extroverted than those in the 'librarian condition'. Furthermore, hypothesis manipulation did not affect question selection strategy at all. A multivariate analysis of variance for the task manipulation did not yield a significant main effect, $F_{(4,41)} = 1.38$. However, the crucial univariate tests for the selection of extrovert questions, $F_{(1,44)} = 3.92$, $p < 0.06$, and for the selection of introvert questions $F_{(1,44)} = 5.56$, $p < 0.03$, were significant and replicated the findings of the first experiment. As in the first study, significantly more extrovert questions were selected when the applicability of the extrovert profile was to be tested and significantly more introvert questions were chosen when the subjects were given the task to test the introvert profile. The univariate $F$ for the neutral questions did not reach significance ($F < 1$). The multivariate $F$ for the interaction terms did not reach significance ($F$ in all cases $<1$).

Table 2. Questions selected as a function of 'task' and 'hypothesis'

| | | | Task | | | |
|---|---|---|---|---|---|---|
| | | | Extrovert profile | | Introvert profile | |
| | | | Hypotheses | | | |
| | | | Extrovert (car salesman) | Introvert (librarian) | Extrovert (car salesman) | Introvert (librarian) |
| Type of question asked | Extrovert | $\bar{X}$ | 5.17* | 5.17 | 4.08 | 4.25 |
| | | SD | 1.80 | 1.95 | 1.44 | 1.77 |
| | Introvert | $\bar{X}$ | 3.25 | 3.17 | 4.75 | 4.33 |
| | | SD | 2.22 | 1.99 | 1.60 | 1.97 |
| | Neutral | $\bar{X}$ | 0.58 | 0.58 | 0.17 | 0.42 |
| | | SD | 0.79 | 0.99 | 0.39 | 0.67 |
| Manipulation check | | $\bar{X}$ | 10.75† | 38.67 | 13.33 | 33.00 |
| | | SD | 7.70 | 17.06 | 11.53 | 17.02 |

*The values represent the average number of extroverted ($n$ = 9), introverted ($n$ = 9), and neutral ($n$ = 4) questions selected in each condition.
†Small values indicate that the target person was believed to be an extrovert, high values stand for an introvert rating.

## DISCUSSION AND CONCLUSIONS

The findings of both experiments support the reasoning that subjects' responses were governed by the requirements of the task demands and that there was no evidence for a biased cognitive process as proposed by Snyder and Swann (1978). The results demonstrate that subjects follow task instructions and examine the applicability of the respective profile. This is particularly clear in those conditions where the task is inconsistent with the hypothesis, e.g. where subjects believe that the person is most probably an introvert and not an extrovert but are instructed to select those questions that would link the extrovert profile with the target person. The adopted 'strategy' of question selection is obviously the most sensible one given these particular constraints, and in the light of these considerations and the present study the assumption of a 'cognitive bias' is unnecessary to explain Snyder and Swann's (1978) results. On the basis of the present findings, their 'hypothesis-confirming strategy' seems to be the result of what the subjects were asked to do rather than what they were led to believe.

If the question of how people go about examining hypotheses about others in real life was to be studied, then the resulting procedural paradigm would probably be different from the one adopted by Snyder and Swann (1978). In a natural situation it is usually not the case that people prepare in advance a set number of questions and pose them in a rigid sequential form. More often, the format of each question is shaped by the answer given to preceding questions. Furthermore, the nature of the questions posed would probably be different from those used by Snyder and Swann (1978). As mentioned earlier, their questions were of the type that would be 'asked of people *already known* to be extroverts (introverts)'. It is difficult to understand why an individual would formulate such questions in a natural situation not knowing, but wishing to find out, if a person possessed a particular personality trait. It seems more likely that the person would use, at least in the beginning of the inquiry, questions one would typically ask of people *not* already known to be extroverts or introverts, i.e. questions which would be most diagnostic (with respect to the aim of the enquiry). Should the answer to such a diagnostic question indicate a particular trait, it is then likely that questions in Snyder and Swann's (1978) format would be used to make further distinctions within the trait. But this could hardly be termed an 'hypothesis-confirming strategy'.

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## RESEARCH NOTE

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## RÉSUMÉ

Snyder et Swann (1978) affirment que dans leur examen des hypothèses sur les attributs d'autres personnes, les personnes sont soumises à une tendence cognitive dans le sens où celles-ci recherchent parmi les informations celles confirmant leur propre hypothèse. On expose ici que ces auteurs confondent l'hypothèse qu'une personne s'est faite par elle-même (correspondant à son savoir) avec celle qu'on lui demande d'examiner (tâche assignée). Les résultats de deux études experimentales dans lesquelles on a manipulé la tâche et le savoir indépendemment l'un de l'autre renforce la supposition que les résultats de Snyder et Swann sont dus à la manipulation de la tâche et non à la tendence de la personne à confirmer sa propre hypothèse.

## ZUSAMMENFASSUNG

Snyder und Swann (1978) behaupten, daß Personen einem kognitiven Bias unterliegen, wenn sie Hypothesen über die Eigenschaften anderer Leute prüfen sollen, d.h. daß sie sich diejenige Information aussuchen, die die eigenen Hypothesen bestätigen. Hier wird dargelegt, daß Snyder und Swann (1978) die Hypothese, die eine Person sich zu eigen gemacht hat (vermutung), mit einer Hypothese konfundieren, die die Person gebeten wurde zu testen (gestellte Aufgabe). Die Ergebnisse zweier experimenteller Untersuchungen, in denen Aufgabe und Wissen unabhängig von einander manipuliert wurden, bestärken die Vermutung, daß die Ergebnisse von Snyder und Swann (1978) auf der Aufgabenmanipulation beruhen und nicht auf einer Verzerrung, die die eigene Hypothese bestätigen hilft.

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