

Original Paper

The Psychometric Properties of the Farsi Version of the Hooper Sexual Problems Questionnaire



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ABSTRACT

Introduction: Despite the desirable characteristics of the Hooper Sexual Problems questionnaire in studying the problems and strengthening sexual relations, the standardization of the questionnaire has not been done in Iran.

Objective: The current study aimed at standardizing the Hooper sex problems questionnaire in Iranian couples.

Materials and Methods: The current methodological study was conducted on 310 couples (620 people), selected by multistage random sampling method, to assess the construct validity (convergent and differential validity), criterion validity, and the internal consensus estimation of the questionnaire. In the next stage, 120 couples (240 people) were selected through convenience sampling method to estimate the structural validity, temporal stability, and reliability of the observers. The formal validity and qualitative content validity, structural validity (exploratory factor analysis), and criterion validity were used to estimate the validity of the questionnaire. The Cronbach alpha was used in order to measure the internal consistency of the questionnaire. The test-retest was used to check the temporal stability of the questionnaire. Finally, the Kappa coefficient was used to assess the reliability of the observers.

Results: The results of qualitatively checking the validity was satisfactory. The convergent validity was satisfactory with marital satisfaction questionnaire ($r=0.80$) and sexual satisfaction questionnaire ($r=0.74$) and differential doping with mental health questionnaire ($r=-0.39$). The criterion validity of the sexual problem questionnaire determined 37.8% and 62.1% of the marital satisfaction and sexual satisfaction variances, respectively. Exploratory factor analysis showed that the questionnaire items explained at least 55% and at most 92% of the total variance of the test. The Cronbach alpha of the questionnaire was 0.976, the reliability of the retest was 0.63, and the mean agreement coefficient between the experts was 0.64 ($P<0.05$).

Conclusion: The Hooper Sexual Problems questionnaire has desirable reliability and validity and can be used as a tool to study and evaluate sexual relations.

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Highlights

- The qualitative validity of the Hooper Sexual Problems (HSP) questionnaire (Farsi version) was satisfactory.
- The HSP convergent validity with marital and sexual satisfaction questionnaires and differential doping with mental health questionnaire was satisfactory.
- The criterion validity of the HSP questionnaire was estimated as 37.8% and 62.1% for the marital satisfaction and sexual satisfaction variances, respectively.
- The Cronbach α of the questionnaire was 0.976, the reliability of the test-retest was 0.63, and the mean agreement coefficient between the experts was 0.64.

Plain Language Summary

Despite the desirable and useful characteristics of the Hooper Sexual Problems questionnaire in studying the problems and strengthening sexual relations, it has not been standardized in Iran. The current study aimed at standardizing the Farsi version of Hooper sex questionnaire in Iranian couples. According to the study findings, this questionnaire has desirable reliability and validity and can be used as a tool to study and evaluate sexual relations.

Introduction

Sex is one of the most important elements in marital relations [1] and many couples' problems are due to dissatisfaction with sexual intercourse, lack of proper satisfaction with libido, and ignorance of the complex dimensions of this fundamental motive [2]. Although sex is neither synonymous with sexual intercourse, nor with orgasm [3], one of the most important predictors of sexual satisfaction, especially for females, is definitely reaching orgasm [4]. Thus, sexual satisfaction refers to having consent with the relationship, the way to express affection, and the degree of comfort when discussing sexual issues and expressing the wishes and attitudes toward sexual and physical pleasure [5].

Many inappropriate sexual activities of couples are due to the lack of sexual knowledge, motivation, self-confidence, and sexual health [6]. Sexual satisfaction is closely related to the general engagement of couples; therefore, problematic sexual intercourse, in addition to the devastating effects on couples' relationships, interferes with their successful sexual performance [7].

Sexual satisfaction questionnaire by Larson [8], the Arizona sexual exercise questionnaire [9], and sexuality sex questionnaire [10] all have been accepted as easy and quick methods to evaluate some of the sexual issues. However, the Hooper Sexual Problems question-

naire is one of the most important tools which is sensitive to changes in couples' sexual relations [11]. The Hooper Sexual Problems questionnaire was presented in a multimedia education program in 1992 [12] and is superior to other existing questionnaires as its subscales measure the full range of important areas of sex. Evaluation of the areas within the marital relationship can describe the potential problems of couples or determine their weak and strong points [13].

This questionnaire can also be used as a diagnostic tool for couples seeking marital counseling and strengthening their marital relationship [14]. The questionnaire consists of 6 components of sex knowledge, sexual self-confidence, sexual health, sexual motivation, physical fitness, and sexual satisfaction [12]. Eshghi studied the two subscales of sexual knowledge and sexual self-confidence of the questionnaire and calculated their reliability using the internal consistency method and reported the Cronbach alpha coefficients for components of sexual knowledge and sexual self-confidence as 0.72, and 0.70, respectively [15].

Despite the desirable characteristics of the Hooper Sexual Problem questionnaire in examining the problems and ways to enhance the sexual relations of couples, there is no study on the standardization of this tool in Iran, also empirical concepts in this regard are scarce and further studies are necessary. Therefore, the current study aimed at translating the questionnaire and

then evaluating the psychometric properties of the Farsi version of the Hooper sexual dysfunction questionnaire.

Materials and Methods

The current methodological study was conducted on couples (parents of female elementary school students) in Isfahan, Iran in a two-phase sampling procedure in 2013. The subjects in the first phase of the study consisted of 310 couples (620 people), selected by multi-stage random sampling method from the statistical population, to estimate the construct validity, criterion validity, and internal consensus of the questionnaire. In the second phase, to determine the construct validity, the temporal stability, and reliability of the observers, 120 new couples (240 persons) were selected by convenience sampling method and with a two-week interval. Four experts evaluated the subjective and content validity of the questionnaire.

As we needed a large sample size to collect information from different people representing the community, and complete the questionnaire items at the same time, we decided to choose a sample of parents of elementary school students. The sampling method was multistage random sampling method in the first study phase. First, district 3 was randomly selected from 5 educational districts of Isfahan, and then 5 elementary schools were randomly selected from the schools of the district. A total of 1700 students were studying in these schools. Through students' enrollment lists, letters were randomly sent to 370 parents, of whom 310 couples (620 people) accepted the invitation and participated in the study.

The inclusion criteria were living with the spouse, absence of severe physical illness requiring hospitalization or interfering with the study process, and lack of sexual problems due to physical illnesses such as diabetes and pelvic surgery. The exclusion criteria were being single, divorced, and separated, having severe psychiatric disorders such as depression and psychosis based on DSM-V (diagnostic and statistical manual of mental disorders, 5th edition) [16], being infertile due to physical illnesses, drug and alcohol abuse reported by a psychologist, lack of cooperation or willingness to participate in the study, and delivering incomplete questionnaires. In order to comply with ethical principles, the consent form for collaborative research was completed by all subjects. They were assured about the confidentiality of their information. The following tools were employed in the current study.

Hooper Sexual Problems Questionnaire

The questionnaire was developed by Hooper in 1992 to assess the various aspects of sexual problems [12]. It consists of 80 questions and 6 subscales as follows: "sexuality" measures information and awareness of sexual content and has 20 true/false questions with a maximum score of 20 and a minimum of 0; "sexual self-confidence" refers to confidence in sexual matters and has 15 multiple-choice items with a maximum score of 45 and a minimum of 0; "sexual health" measures the physical and mental health of the individuals and includes 15 multiple-choice items with a maximum score of 45 and a minimum of 0; "sexual motivation" assesses the extent of sexual desire and how it affects behavior and has 10 multiple-choice questions with a maximum score of 30 and a minimum of 0; "physical pleasure" deals with the emotions of physical contact and the response to the contact and includes 10 yes/no questions, with a maximum score of 10 and a minimum of 0, and "sexual satisfaction" which measures the degree of sexual satisfaction of a married life and includes 10 questions, with a maximum score of 10 and a minimum of 0 [12].

Mental Health Questionnaire

This questionnaire was developed by Goldberg in 1979 to assess the signs and symptoms of mental status [17]. It consists of 28 items and 4 subscales of physical symptoms, symptoms of anxiety, and sleep disturbances, social dysfunction, and depression. It is scored based on the 4-point Likert-type scale (from "more than usual"=0 to "much worse than usual"=3). Scores 0-21 indicate very good mental health, 22-42 good mental health, 43-64 moderate mental health, and scores 64 and more indicate poor mental health [18]. In the study by Jahanmard et al. the Cronbach alpha coefficient of this questionnaire was obtained 0.87 [19]. Azizi et al. evaluated the content validity of this questionnaire with the opinion of the experts, and reported its reliability as 0.076 [20].

Marital Satisfaction Questionnaire

The questionnaire was developed by Olson et al. in 1992 to assess the potential problematic areas and identify the strengths and weaknesses of the marital relationship [21]. It consists of 35 questions and 4 subjective scales of ideal distortion, marital satisfaction, communication, and conflict resolution. It is scored based on a 5-point Likert-type scale (from "totally agree"=0 to "completely disagree"=4). Scores less than 30 indicate

severe dissatisfaction, 30-40 dissatisfaction, 40-60 relative and average satisfaction, 60-70 high satisfaction, and scores above 70 indicate a high degree of satisfaction with marital relations between spouses. Olson et al. estimated the internal consistency of the whole questionnaire in the range 0.79-0.90 [21]. Azizi et al. evaluated the content validity of this questionnaire with the experts' comments and its reliability was 0.78 [22].

Sexual Satisfaction Questionnaire

The questionnaire was developed by Larson in 1998 to assess the sexual satisfaction of couples [8]. It consists of 25 questions scored based on a 5-point Likert-type scale (from never=1 to always=5). Scores 25-50 indicate lack of sexual satisfaction, 51-75 low level of sexual satisfaction, 76-100 average sexual satisfaction, and scores 101-125 high sexual satisfaction. The reliability and validity of this questionnaire were reported by Larson Optimal [8]. Azeri et al. assessed the content validity of this questionnaire and its reliability was estimated using the Cronbach alpha coefficient (0.82) [23].

To determine validity, no specific test is known as the best method, but in this case, a variety of methods are available [24]. In the initial implementation of the current study, formal and content validity were examined. For the qualitative assessment of formal validity, after translating the Hooper Sexual Problems questionnaire, both English and its Farsi version were provided to four specialists in the field, including a psychologist, psychiatrist, couple therapist, and family counselor to review the final Farsi version in terms of the desirability of phrases like clarity, use of common language, and relation of the content of the questions with the purpose of the questionnaire (sex and its components).

A qualitative survey of 4 experts was used to evaluate the questionnaire content validity. Thus, in the qualitative assessment of content validity, observance of grammar, use of proper words, the importance of subscales

and their placement in the proper place, and the time of completion of the designed tool were considered. Then, the convergent and differential validities were employed to evaluate the construct validity. In order to examine the convergent and differential validities of the questionnaire, the correlation between the scores of the questionnaire and marital satisfaction questionnaire, mental health questionnaire, and sexual satisfaction questionnaire were calculated. Finally, in order to calculate the criterion validity and the construct validity, exploratory factor analysis was used to check the predictive ability of marital satisfaction and sexual satisfaction questionnaire through Hooper Sexual Problems questionnaire. With regard to the reliability of the questionnaire, the Cronbach alpha test was used to measure internal consistency, test-retest to measure temporal stability, and Kappa coefficient to check the reliability of observers.

Results

In the first phase, the structural validity was examined using convergent and differential validities. To assess the criterion validity and the internal consensus assessment, the Hooper Sexual Problems questionnaire was completed by 310 couples (620 people) with a Mean±SD age of 38.13±5.48 years and the Mean±SD marriage duration of 13.97±4.53 years. The sample group had one to three children and 26.2% of them had the undesirable, 60.4% had moderate, and 13.4% desirable economic status. Also, 49% reported health problems, and 26% of them were unemployed.

In the second phase, the construct validity was examined using exploratory factor analysis. In order to verify the stability and reliability of the observers, the questionnaire was completed by 120 couples (240 people) with the Mean±SD age of 37.69±5.43 years and the Mean±SD marriage duration of 13.20±4.47 years. The sample group had one to four children and in terms of economic status 25.3% had undesirable, 50% moderate, and 24.7% de-

Table 1. Mean score, SD, and correlation matrix among HSP, marital satisfaction, mental health, and sexual satisfaction questionnaires (n=620)

Variable	Mean±SD	1	2	3
Sexual problems	0.84±0.31	-	-	-
Marital satisfaction	3.57±0.75	0.80*	-	-
Mental health	0.66±0.46	-0.39*	-0.48*	-
Sexual satisfaction	3.90±0.70	0.74*	0.84*	-0.62*

* P<0.01

Table 2. The special values for factors extracted from sexual problems questionnaire

Factor	Eigenvalue			Unexplained Variance			Explained Variance		
	Total	Percentage of Variance	Concentration Percentage	Total	Percentage of Variance	Concentration Percentage	Total	Percentage of Variance	Concentration Percentage
1	22.434	28.043	28.043	22.434	28.043	28.043	15.175	18.968	18.968
2	12.012	15.016	43.058	12.012	15.016	43.058	10.033	12.541	31.510
3	4.188	5.235	48.293	4.188	5.235	48.293	6.438	8.048	39.558
4	3.987	4.984	53.277	3.987	4.984	53.277	5.831	7.289	46.847
5	3.174	3.968	57.245	3.174	3.968	57.245	4.257	5.321	52.168
6	2.303	2.879	60.124	2.303	2.879	60.124	3.435	4.294	56.462
7	1.973	2.466	62.590	1.973	2.466	62.590	2.425	3.031	59.493
8	1.649	2.062	64.652	1.649	2.062	64.652	2.266	2.833	62.326
9	1.554	1.963	66.594	1.554	1.963	66.594	1.984	2.481	64.806
10	1.526	1.908	68.502	1.526	1.908	68.502	1.892	2.365	67.171
11	1.288	1.610	70.112	1.288	1.610	70.112	1.762	2.202	69.374
12	1.182	1.477	71.589	1.182	1.477	71.589	1.440	1.800	71.173
13	1.085	1.356	72.946	1.085	1.356	72.946	1.418	1.772	72.946

sirable condition. About 24% of them reported physical health problems, and about 22% were unemployed.

Four experts reviewed and confirmed the formal and content validities of the sexual problem questionnaire. Table 1 presents the results of the convergent and differential convergence of the sexual problem questionnaire which are compared with marital satisfaction, mental health, and sexual satisfaction questionnaires.

By the analysis of the data of 310 couples (620 people), a positive and significant relationship was observed between marital satisfaction questionnaire and sexual problem questionnaire ($r=0.80$, $P<0.01$). Therefore, by increasing sexual pleasure, marital satisfaction increases that indicates a high correlation and the desirable convergent validity of the questionnaire. The high and positive correlation between sexual problems questionnaire and sexual satisfaction questionnaire also indicates the convergent validity of the mentioned in-

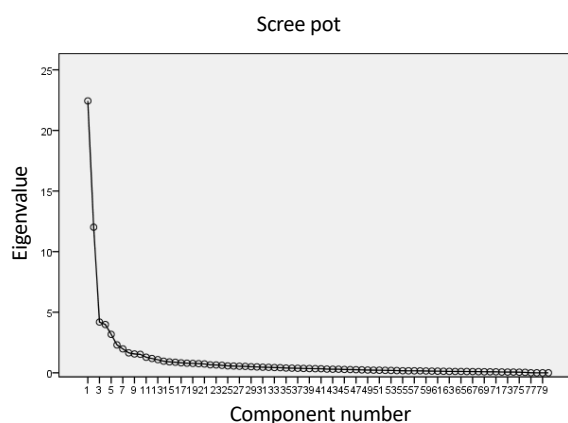
**Figure 1.** Scree diagram for the extracted factors

Table 3. The factor load of each factor in the relevant factors after the varimax rotation

Agent Questions 1	Factor Load	Agent Questions 1	Factor Load	Agent Questions 1	Factor Load	Agent Questions 1	Factor Load	Agent Questions 1	Factor Load	Agent Questions 1	Factor Load
8	0.468	28	0.757	45	0.812	69	0.677	40	0.529	74	0.798
9	0.417	32	0.729	48	0.740	73	0.657	61	0.761	75	0.809
11	0.537	33	0.663	49	0.792	76	0.679	62	0.762	77	0.816
12	0.422	37	0.705	50	0.686	-	-	63	0.803	-	-
13	0.454	38	0.690	51	0.821	-	-	66	0.511	-	-
22	0.710	39	0.741	54	0.517	-	-	68	0.868	-	-
24	0.728	41	0.630	55	0.650	-	-	70	0.794	-	-
26	0.646	42	0.803	56	0.573	-	-	71	0.648	-	-
28	0.574	44	0.455	65	0.541	-	-	72	0.784	-	-

strument ($r=0.74$, $P<0.01$). The reverse and significant correlation ($r=-0.39$, $P<0.01$) between mental health problems and sexual problems questionnaire indicates the differential validity of this questionnaire (Table 1).

Regarding the results of linear regression analysis, it is obvious that gender scores have a significant correlation in the prediction of the rates of sexual satisfaction and marital satisfaction. Hence, the scores of sexual problems explain 37.8% of the variance of sexual satisfaction ($R^2=0.378$; $F=144.58$; $P<0.01$) and the regression coefficient showed a significant standard of 0.61 ($t=12.2$, $P<0.01$). It was also observed that the scores of sexual problems explained 62.1% of the variance in marital satisfaction ($R^2=0.621$, $P<0.01$, $F=398.38$), and the regression coefficient had a significant standard of 0.79 ($t=19.74$, $P<0.01$). The tool, therefore, gave a pre-

dictive predicate or criterion that can predict sexual and marital satisfaction.

To perform the first exploratory factor analysis, according to Tabachnick and Fidell [25], the correlation between the questions was examined to determine whether their correlation reached 0.30. The correlation between questions showed that at least a significant number of questions had a correlation equal to or greater than 0.31. To consider the rejection criterion, it was also noted that there were at least 9 questions for each factor, and the results also showed that no factor had less than 3 questions. In the second phase, the Kieser, Mayer, and Alekin (KMO) and Bartlett's test were adequate. The KMO value was 0.75 that was higher than 0.60. Therefore, the questionnaire ques-

Table 4. The Cronbach alpha coefficient for sexual problems subsets ($n=620$)

Component	Questions for Each Component	Alpha Coefficient
Sexual knowledge	1-20	0.83
Sexual self-confidence	20-35	0.74
Sexual health	35-45	0.89
Sexual motivation	45-60	0.94
Physical pleasure	60-70	0.84
Sexual satisfaction	70-80	0.96
Total questionnaire	1-80	0.976

tions can be reduced to the number of underlying and fundamental factors.

The result of Bartlett's test (3646.18), which is significant at an error level less than 0.01, indicates that the correlation matrix between the questions is not a single matrix. It means that, on one hand, there is a high correlation between the internal questions of each factor, and on the other hand, there are no significant correlations between the questions of one factor and other questions. Based on the results of these tests, the factor structure of the questionnaire was determined based on the factor analysis method and by the main components analysis using the varimax rotation. It is to be noted that the obtained data were first analyzed using Tabachnick and Fidell [25] recommendations based on the main factors rotation and since the correlation between the factors was less than 0.3, the factor analysis method was followed based on the varimax rotation.

The applied analysis showed that the eigenvalues of the main components in 13 factors were higher than one. Table 2 presents each of the factors, the eigenvalues, and the explained and unexplained variances. Thirteen agents with special values more than one were extracted. In total, these factors accounted for 72.946% of the total variance. It was before the rotation of the agents. Therefore, most of the loads were distributed on the first factor (15.175%) and the variance (unspecified) remained on the other 12 factors. This upload was not optimal or desirable since it was loaded on the first factor (hence, a rotation was needed). The final three columns of Table 2 show the bars after turning (Varimax).

The ratio of the loading rates changed: 18% for the 1st factor, 12% for the 2nd factor, 8% for the 3rd factor, 7% for the 4th factor, 5% for the 5th factor, 4% for the 6th factor, 3% for the 7th factor, 2% for the 8th, 9th, 10th, and 11th factors, and 1% for 12th and 13th factors. However, there was still an explained variance of 72.946 (Table 2). The factors extracted from the scratch diagram also indicate that the questionnaire's questions in 13 factors have a special value larger than one. Scratch graph is shown in Figure 1. According to the scratch graph, 6 extractable factors were observed (Figure 1). Also, Table 3 presents the factor load for each question after the rotation.

According to the output of the exploratory factor analysis by the main subscales method, the subscales matrix after the rotation confirmed that about 62 questions in the subset of the first factor and other questions with a slight difference in the other 12 fac-

tors had factor loads greater than 0.40. Subsequently, by eliminating the distracting values, the questions explained at least 55% and up to 92% of the variance of the whole questionnaire of sexual problems, and questions of the four subscales of gender knowledge, sexual self-confidence, sexual motivation and sexual health in the first factor, and questions of the subscale of sexual satisfaction and physical pleasure were taken in the second factor (Table 3).

Table 4 lists the Cronbach alpha coefficient of the sexual problem questionnaire and its subscales. The Cronbach alpha coefficient for the whole questionnaire was 0.976. The alpha coefficients values were 0.83, 0.74, 0.89, 0.94, 0.84 and 0.96 for subscales of gender, knowledge, sexual self-confidence, sexual health, sexual motivation, physical fitness, and sexual satisfaction, respectively. Also, based on the findings, eliminating any question will not increase the overall alpha coefficient of the tool. The range of the corrected correlation coefficients varies from 0.0291 to 0.917 with regard to the total score of the questionnaire (Table 4). Also, the test-retest reliability inevitably conducted on 120 couples (240 people) (because the access to the first sample was not achieved) in a two-week interval was obtained as 0.63 using the Spearman's rank correlation coefficient. The mean agreement coefficient between referees in using or not using the questionnaire to measure sexual problems in 120 couples (240 persons) was 0.64, using the coefficient of kappa ($P=0.01$).

Discussion

The results of the current study showed that the face and content validity of the Hooper Sexual Problems questionnaire was satisfactory. Based on the findings, there was a direct and significant correlation between marital satisfaction and sexual problem questionnaire, therefore, with increased sexual pleasure, marital satisfaction also increases. This high correlation represents the optimal convergent validity of the sexual problem questionnaire. Another finding of the current study was the high and positive correlation between Hooper sex problems questionnaire and sexual satisfaction questionnaire, which also indicated the convergent validity of the tool. The reverse and significant correlation between mental health problems and sexual problems questionnaire indicated the differential validity of this questionnaire.

Another finding of the current study was that the criterion validity of the sexual problem questionnaire was 37.8% and 62.1% in the variance of marital satisfaction and sexual satisfaction, respectively. The tool, therefore,

has a predicate or criterion that can predict sexual and marital satisfaction. Also, according to the findings of the current study in the sexual problems questionnaire, there was good evidence of tool structure validity, indicating the adequacy of the tool structure in similar study situations. In addition, the results of the current study showed that the reliability, internal consistency, and stability of the sexual problems questionnaire were satisfactory.

In the literature review, the authors could not find a similar study that investigated the psychometric properties of the sexual problem questionnaire, so we would be able to provide our results only in this field. In the study on the two components of sexual knowledge and sexual self-confidence, Eshghi used the questionnaire and calculated its reliability using the internal consistency method, and the Cronbach alpha coefficients for the components of gender knowledge and sexual self-confidence were reported 0.72 and 0.70, respectively [15]. These coefficients in the current study were 0.83 and 0.74 for the above components, respectively.

The most important limitation of the current study was sampling from a specific group (parents of female high school students). Therefore, generalizations of results should be made with caution. Also, the high number of questions, the possibility for participants to get tired of answering questions, and the lack of cooperation of some subjects in the middle of the test run were among the other limitations of the current study. To this end, we suggest researchers interested in this field reduce the number of items in the questionnaire and prepare a short form of this tool to standardize it.

Sexual problems questionnaire has good validity and reliability. Therefore, the results of the current methodological study can be accessed by clinical psychologists and all consultants dealing with couples with sexual problems in a way that they understand the importance of sexual issues in marital relationships in the family, and this questionnaire is used as a tool to study and evaluate the sexual relationships.

Ethical Considerations

Compliance with ethical guidelines

In order to comply with ethical principles, the consent form for collaborative research was completed by all subjects. They were assured about the confidentiality of their information.

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Authors contributions

Co-principal investigators, responsible for all aspects of study design and implementation and major contributors: Mahshid Sasanpour; project manager and responsible for ensuring community access and field management of research team members, including data collection, statistician and contributed to all data related components of the manuscript: Amir Azizi; and read and approved the final manuscript: All authors.

Conflict of interest

The authors declared no conflict of interest.

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