

Original Article

Cultural Adaptation, Internal Consistency and Test–Retest Reliability of the Turkish Version of the Body Exposure during Sexual Activities Questionnaire

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Abstract

Aim: This study was planned in order to examine the Turkish validity and reliability of The Body Exposure during Sexual Activities Questionnaire (BESAQ), which was developed by Cash et al, on pregnant women and to adapt the questionnaire into Turkish.

Methodology: Language and context validity studies for the validity of the scale were performed, and its internal consistency, item total score correlations, and test retest compliance were examined for its reliability.

Results: The questionnaire was presented to the views of 10 teaching staff members in order to evaluate its language and context validity, and its last form was given according to the suggestions. When the relationships between the item scores and item total scores of the BESAQ, which was applied to 169 pregnant women, were evaluated, 24 of the 28 items were found to be meaningful while the effect of 4 items on the item score average was not statistically significant. The highest contribution to the total score was made by the item “I try to hide certain parts of my body during sexual intercourse” ($r=0,678$). Positive, strong, and statistically highly significant relationships between item-total score correlation reliability coefficients were found for most of the items ($p<0.001$). In the internal consistency analysis of the scale, the cronbach alpha reliability coefficient was found to be $\alpha=0.80$. Test retest analyses were performed in order to evaluate the time invariance of the scale, and no differences between the applications were found ($p>0.05$).

Conclusions: The Turkish version of the BESAQ is a valid and reliable tool that can be used in studies in our country with pregnant women.

Key Words: body image, sexual activity, sexual function, pregnancy, validity

Introduction

Body image is how a person pictures their body in their mind with their emotions and thoughts. Although this can seem to be only physical perception, it is also related to how a person feels psychologically and socially (Salter, 2000; Oz, 2010; Erbil et al. 2012; Ozorhan, 2012). During the life process, body image is shaped to be an important factor of mental health and personality values (Yorukoglu, 2003; Ozorhan, 2012).

Body image is a dynamic concept that starts development during infancy, gains importance during adolescence, develops lifelong, and includes the subjective perception of an

individual regarding his/her body (Gumus et al. 2011). Additionally, it is affected by cognitive growth and physical development, and changes in various stages of life (CSUS handbook 2005; Timby and Smith, 2005; Ozorhan, 2012). Although these processes are normal, problems regarding body image perception arise (Coskuner, 2003).

In such a situation, whether the change in the body is small or big, the attention of the individual is drawn to the affected body area and differences between the image of the body at the moment and the image formed in the mind regarding the body occur (Taskin and Kukulu, 2011).

Body image is not only related to physical image and psychosocial aspects, but also has a sexual aspect. Thus, examining body image experiences in various circumstances provides a holistic point of view (Cash et al. 2004). In a study by Wiederman (2002), it was stated that status regarding body image perception and satisfaction cannot be differentiated from sexual quality of life (Wiederman, 2002).

Women who have low body image and who do not like their body image are known to want less intercourse and less touching with their partners. In a study, women who have excessive awareness regarding body image during intercourse because of dissatisfaction with body were found to trust themselves less and show avoidance regarding sexual intercourse more (Wiederman, 2002). Additionally, people who are not satisfied with their body image obstruct sexual intercourse more since they don't like themselves and have a predilection for more sexual problems. Thus, the sexual experiences of these people remain more limited (Cash et al. 2004).

The objectification of women's organs and their evaluation are related to sexual problems and this may cause dissatisfaction with body in women. Pregnancy and the postpartum period are periods where the sexual organs of women are objectified extensively and where functionality focused on birth is at the forefront (Cash et al. 2004). When the literature was examined, it was seen that sexual drive decreased in 75% of pregnant women in the 3rd trimester. Again, in the 3rd trimester, 83-100% of primigravid women reported a decrease in sexual desire. For this reason, examining the body images of pregnant women during sexual acts has gained importance (De Judicibus and Mc Cabe, 2002).

Aim

This study was planned in order to examine whether the Turkish version of The Body Exposure during Sexual Activities Questionnaire, which was developed by Cash et al, is a valid and reliable tool for our country.

Methods

Time and Place of the Study

The study was performed at the obstetrics polyclinic of a training and research hospital in Istanbul between December 2009 and December 2010.

The Universe and Sample of the study

The universe of the study consisted of all of the pregnant women presenting at the obstetrics polyclinic of a training and research hospital in Istanbul between December 2009 and December 2010. The sample of the study consisted of 169 women, whose number equaled six times the item number in the scale. Arbitrary sampling was used in sample selection.

Inclusion criteria

Pregnant women who agreed to participate, were over the 20th week of pregnancy, had a healthy fetus, was 18 years of age and above, had no communication difficulties and mental insufficiencies, hadn't seen infertility treatment to become pregnant, had no chronic disease, had no health problems regarding pregnancy and were literate were included in the study.

Data collection form

In data collection, the Introductory Information Form formed by the researcher to determine the socio demographic characteristics, general health characteristics, and gynecologic/obstetric history of the participants and the Body Exposure during Sexual Activities Questionnaire were used.

a) The Introductory Information Form

The information form was developed by the researcher according to literature. The Introductory Information Form consists of questions regarding socio demographic characteristics such as age, marital status, education status, employment status, and economic status and questions regarding gynecologic/obstetric history.

b) Body Exposure during Sexual Activities Questionnaire – BESAQ

In the scale, developed in 2004 by Cash et al, 28 items evaluating the body image experiences and perceptions during sexual intercourse are present. Within the context of BESAQ, terms regarding the awareness of a person regarding their body during sexual intercourse, sexual intercourse experiences, the anxiety formed by focusing on body image, and women avoiding their sexual partner because of body image are evaluated. The scale can be applied to women and men over 18 years of age. Each item is in a 5 way Likert type manner scored from 0 to 4. The scorings are as 0=Never, 1=Seldom, 2=Sometimes, 3=Often, and 4=Always or almost always. The total score that can be obtained from the scale is obtained by

dividing the total score taken from all the items by the number of items (28). Higher scores from the scale reflect focusing with more awareness and avoidance from sexual intercourse.

Data collection

The data forms were given to the pregnant women presenting at the polyclinic for routine controls and the women were asked to fill them out in separate room. The test retest application was done with 44 pregnant women with a 3-week interval. The completion of the data gathering forms took approximately 10-15 minutes.

Data analysis

Analyses regarding the validity and reliability of the scale were performed using the SPSS package program. For the context validity of the scale, expert views were evaluated using the Context Validity Index. In reliability analyses, the Pearson moment multiplication correlation analysis, Pearson correlation analysis, the Cronbach alpha reliability coefficient to test internal consistency, and the dependent groups t-test for testing the time invariance of the scale were used.

Ethical considerations

In order to perform the validity and reliability study of the Turkish version of the Body Exposure during Sexual Activities Questionnaire, the necessary permissions were taken from the developer of the scale, Thomas F. Cash. Additionally, written permission was taken from the hospital where the study was performed, and the aim of the study was explained to the pregnant women included in the sample, and their written permissions were taken.

Results and Discussion

In this study, which examines the validity and reliability of the Body Exposure during Sexual Activities Questionnaire for pregnant women in our country, the Turkish form of the scale was determined to be a valid and reliable tool. The most basic characteristics that a good measurement tool should have are validity and reliability (Ercan and Kan, 2004). Studies performed in order to adapt a scale developed for a certain language and culture to other cultures or languages are termed "scale adaptations". In this study, the methods suggested for scale adaptations were followed, and the language and context validity of the scale were ensured first (Gozum and Aksayan, 2002). In the phase of

translating and back translating the scale into Turkish, the views of people fluent in both languages were taken, and in order to ensure the compliance of scale items to the Turkish sentence structure and their understandability, counseling from a literary teacher was taken.

In scale adaptation studies, a number of cases 5-10 times the item number of the scale to be adapted is suggested (Oner, 1997). In our study, the BESAQ was applied to 44 pregnant women for a preliminary group study, and item based compliance was checked by retesting. Later, the validity and reliability study was performed with 169 pregnant women by taking into account the number of items in the scale (28).

The ages of the pregnant women participating in the validity and reliability study varied between 18 and 39 with an average of 26.44 ± 5.49 years. The marriage durations varied between 0.20 months and 18 years with an average of 5.36 ± 4.76 years. Additionally, it was determined that all of the cases were married (Table 1)

Validity Findings

The Language Equivalency, Context, and Content Validity Analyses of the Body Exposure during Sexual Activities Questionnaire:

In order to evaluate the content and context validity of the scale, the original English form of the Body Exposure during Sexual Activities Questionnaire was translated into Turkish by an Obstetrics and Gynecology Nursing Tutor, the researcher, and an English lecturer. The researcher examined the translated scale and formed a common Turkish text. The compliance of the text with Turkish and its understandability were evaluated by a literary teacher. In the next phase, the scale was back translated into English by an academic member who lived and studied for PhD abroad and two people who were living and studying abroad who received detailed information on the scale and the study but didn't see the original form of the scale. This back translated scale was then retranslated into Turkish by another member of the academic staff. Whether there were meaning changes compared to the original scale was evaluated, and the scale was given its final form.

In order to evaluate cultural compliance, language equivalency, and context validity according to the suggested changes, the views of seven academic staff from the Gynecology and

Obstetrics Nursing department, two from the Psychiatric Nursing Department, and one from the Obstetrics department were taken. Necessary corrections were made according to the suggestions. In order to evaluate the expert views, the Context Validity Index was used. According to the appropriateness of the items, the experts were asked to score as 1: not appropriate, 2: little appropriateness (the item should be shaped accordingly), 3: appropriate with minor changes necessary, and 4: very appropriate.

While calculating the CVI score of the scale, it was found that each item had a score of 3 or 4 according to expert views. The average of the CVI scores of every item gives the CVI score for the scale. The CVI scores of the Body Exposure during Sexual Activities Questionnaire items varied between 0.75 and 0.95. In evaluations, the CVI average of the items was found to be 0.85. When this result is taken into consideration, a unity of views among experts regarding the scale was determined.

Table 1- Descriptive and obstetrical characteristics of the pregnant

		n	%
Education	Primary school and lower	127	69.2
	Secondary school and upper	52	30.8
Working Situation	Working	60	35.5
	Non-working	109	64.5
Economic Situation	Income less than expenses	64	37.9
	Income equivalent to the expenses	100	59.2
	Income more than expenses	5	3.0
Parity	Nulliparous	74	48.3
	Multiparous	95	56.2
	Min.- Max.	Mean±SD	
Gravida	1-8	2.02±1.21	
Parity	0-4	0.67±0.79	
Number of Abortus	0-4	0.27±0.60	
D&C (Number of abortion)	0-2	0.08±0.32	

Reliability Findings

The Item Analysis of the Body Exposure during Sexual Activities Questionnaire

This method, also known as item reliability, evaluates the effect of scale items on the scale total score and exhibits their relationship to the whole of the scale. In literature, it has been stated that a sample size between 100-200 or at least 5 times the number of items in the scale is necessary (Gozum and Aksayan, 2002).

Although no certain value has been stated in sources regarding which values item total correlation coefficients are reliable, some sources state that items with less than 0.50 correlation value should be suspected and some sources state this value should be over 0.30, while most sources accept 0.20 as the limit. (Gozum and Aksayan, 2002).

If the items in a scale are independent units with equal weight, the correlation coefficient between each item and the total score is expected to be high. The higher the correlation coefficient, the higher the relationship between the item and the

characteristic to be measured will be. While there is no standard point at which the reliability of the item becomes insufficient if the item total score correlation coefficient falls under, the correlations not being negative, being over 0.25 or 0.30, or under 0.70 have all been suggested. (Talbot, 1995; Gozum and Aksayan, 2002; Akgul and Cevik, 2005).

When the relationships between the item scores and item total scores of the BESAQ, which was applied to 169 pregnant women, were evaluated, the highest contribution to the total score was made by the item "I try to hide certain parts of my body during sexual intercourse" ($r=0.678$), followed by "During sexual intercourse, I think that certain parts of my body are too modest to be sexy" with 0.659 and "During sex, I avoid certain postures and positions to hide the places in my body where I don't want my partner to see" with 0.647.

The effects of the 3rd, 7th, 10th, and 13th items on the item score average was found to be insignificant statistically (Table 2).

Table 2- Item Total Score Correlations of the BESAQ (n=169)

Items	Scale Total Score	
	r	p
1. During sex, I think that my partner will notice something about the stiffness of my body	0.319	0.001**
2. During sex, I worry that my partner will find the aspects of my body which are not attractive	0.404	0.001**
3. I don't care how my body looks during sexual intercourse	0.058	0.452
4. Something about my body image makes me shy during sexual intercourse	0.517	0.001**
5. I am comfortable when my partner removes my clothes	0.459	0.001**
6. I prefer hiding my body under a sheet or cover during sex	0.499	0.001**
7. I am comfortable with my partner looking at my sexual organs during sex (I am not uncomfortable)	0.058	0.452
8. I worry during sex that my partner will find my body repulsive	0.545	0.001**
9. During sex, I worry that my partner will find the appearance or size of my sexual organs insufficient or modest	0.571	0.001**
10. When my partner sees me naked, I hide nothing	-0.047	0.547
11. I think that my body looks sexy during sex	0.367	0.001**
12. During sex, I don't like my partner to see me completely naked	0.501	0.001**
13. When my partner sees me without clothes, I guess that he/she is excited	0.144	0.061
14. During sex, I prefer not to remove certain parts of my clothes	0.448	0.001**
15. I am aware of my body during sex	-0.212	0.006**
16. During sex, I worry that my partner will find the smell and image of my genitalia repulsive	0.483	0.001**
17. I try to hide certain parts of my body during sex	0.678	0.001**
18. During sexual intercourse, I think that certain parts of my body are too modest to be sexy	0.636	0.001**
19. There are parts of my body I don't want my partner to see during sex	0.659	0.001**
20. During sex, I worry about what my partner thinks on how my body looks	0.642	0.001**
21. During sex, I worry about how I feel when my body is touched will make my partner lose interest	0.549	0.001**
22. It is hard to not think about my weight during sex	0.482	0.001**
23. The room being well illuminated during sex makes me be aware of myself	0.561	0.001**
24. I am mostly comfortable with opening sections of my body during sex to my partner	0.297	0.001**
25. During sex, I like my partner to look at my body	0.629	0.001**
26. During sex, I avoid certain postures and positions to hide the places in my body where I don't want my partner to see	0.647	0.001**
27. During sex, thoughts on how certain parts of my body look distract me	0.624	0.001**
28. I am comfortable walking around my partner naked before or after sex	0.632	0.001**
Pearson Correlation Coefficient	**p<0.01	

Table 3. The effects of the items of the BESAQ on reliability

Items	Mean	SD	Scale average if item deleted	Scale variance if item deleted	Corrected item whole correlation	Cronbach Alfa if item deleted
1. During sex, I think that my partner will notice something about the stiffness of my body	0.58	0.99	36.456	275.654	0.266	0.803
2. During sex, I worry that my partner will find the aspects of my body which are not attractive	0.58	1.00	36.456	272.642	0.352	0.800
3. I don't care how my body looks during sexual intercourse	2.60	1.49	34.438	284.605	-0.030	0.815
4. Something about my body image makes me shy during sexual intercourse	0.89	1.15	36.142	266.468	0.465	0.796
5. I am comfortable when my partner removes my clothes	1.47	1.57	35.568	263.461	0.381	0.798
6. I prefer hiding my body under a sheet or cover during sex	1.59	1.70	35.444	259.510	0.418	0.796
7. I am comfortable with my partner looking at my sexual organs during sex (I am not uncomfortable)	2.30	1.65	34.740	284.801	-0.040	0.817
8. I worry during sex that my partner will find my body repulsive	0.60	1.15	36.432	265.556	0.494	0.795
9. During sex, I worry that my partner will find the appearance or size of my sexual organs insufficient or modest	0.43	0.89	36.609	268.930	0.534	0.796
10. When my partner sees me naked, I hide nothing	2.46	1.64	34.574	290.579	-0.142	0.821
11. I think that my body looks sexy during sex	1.74	1.41	35.296	269.864	0.292	0.801
12. During sex, I don't like my partner to see me completely naked	1.46	1.51	35.580	262.019	0.429	0.796
13. When my partner sees me without clothes, I guess that he/she is excited	1.12	1.38	35.911	280.498	0.063	0.810
14. During sex, I prefer not to remove certain parts of my clothes	1.38	1.48	35.657	265.084	0.373	0.798
15. I am aware of my body during sex	3.17	1.15	33.864	294.880	-0.276	0.819
16. During sex, I worry that my partner will find the smell and image of my genitalia repulsive	0.99	1.30	36.041	265.826	0.421	0.797
17. I try to hide certain parts of my body during sex	0.87	1.30	36.166	257.163	0.633	0.789
18. During sexual intercourse, I think that certain parts of my body are too modest to be sexy	0.80	1.15	36.237	261.884	0.593	0.792
19. There are parts of my body I don't want my partner to see during sex	0.61	1.18	36.426	260.544	0.616	0.791
20. During sex, I worry about what my partner thinks on how my body looks	0.86	1.30	36.172	258.726	0.593	0.790
21. During sex, I worry about how I feel when my body is touched will make my partner lose interest	0.83	1.22	36.201	264.138	0.495	0.794
22. It is hard to not think about my weight during sex	0.86	1.41	36.172	264.274	0.414	0.796
23. The room being well illuminated during sex makes me be aware of myself	1.84	1.68	35.195	256.206	0.487	0.792

24. I am mostly comfortable with opening sections of my body during sex to my partner	1.84	3.60	35.195	262.122	0.087	0.838
25. During sex, I like my partner to look at my body	1.59	1.54	35.444	254.939	0.569	0.789
26. During sex, I avoid certain postures and positions to hide the places in my body where I don't want my partner to see	1.12	1.36	35.917	257.493	0.596	0.789
27. During sex, thoughts on how certain parts of my body look distract me	0.81	1.26	36.225	260.294	0.575	0.791
28. I am comfortable walking around my partner naked before or after sex	1.63	1.60	35.402	253.742	0.570	0.789

The internal consistency analysis of the Body Exposure during Sexual Activities Questionnaire:

In order to test whether the items in the scale showed consistency among themselves, it is stated that an internal consistency analysis should be performed. In internal consistency analysis, the items in a single measurement tool are investigated with regard to whether they measure a conceptual structure or not. If the internal consistency of the scale among the items is high, the scale is considered reliable (Gozum and Aksayan, 2002). According to our findings, the items of the scale can be said to be related to each other, serve the whole of the scale, and the scale can be said to be homogenous.

It has been stressed that the items in a scale would be consistent with higher alpha coefficients and in likert type scales, the alpha coefficient should be as close to 1 as possible. Higher Cronbach alpha coefficients mean items that are consistent with each other and high measurement tool reliability (Gozum and Aksayan, 2002).

In literature in scale development and cultural adaptation studies, internal consistency coefficients of .00-.40 are considered unreliable, .4-.60 are considered low reliability, .60-.80 are considered reliable, and .80-1.00 are considered highly reliable. (Bayram, 2009; Buyukozturk, 2012). In other sources, alpha coefficients of .90 and above are considered perfect, .80-.90 are considered good, .70-.80 are considered acceptable, .60-.70 are considered doubtful, .50-.60 are considered weak, and below .50 are considered unacceptable (Gozum and Aksayan, 2002).

In testing the reliability of the scale, the alpha coefficient (Cronbach Alpha) was used. Additionally, in order to determine how much and at which direction the items affect the alpha

coefficient, the "Alpha if item deleted" values were calculated. This variable shows the internal consistencies of the remaining variables if a certain variable is deleted.

In the analysis, data from the 169 participants was used. As a result of the examination of the internal consistency of the scale, the $\alpha = 0,806$ reliability value was obtained.

The effects of the items on the reliability level were given in Table 3. When the Alpha if item deleted values of the table were examined, it was shown that excluding any item would not increase reliability.

The comparison of the test retest score averages of the Body Exposure during Sexual Activities Questionnaire and correlations:

Test retest reliability is the strength of a measurement tool to give consistent results from one application to another and show time invariance. In order to find test retest reliability, the correlations between the scores obtained from two applications are calculated. The correlation obtained by this process is the test retest reliability coefficient of the scale. Since test scores constantly change and have the qualities of an equal interval scale, the "Pearson Moment Multiplication Correlation Equation" is used in finding reliability. The correlation coefficient (r) can take values between 0 and 1. As correlation (r) increases, the efficiency level of the item increases and as r falls, it decreases. A sufficiently high correlation coefficient shows the stability of the measurements with the tool and little change with time between two applications in the measured characteristic (Karasar, 1995; Gozum and Aksayan, 2002). The test retest measurements of the Body Exposure during Sexual Activities Questionnaire, performed with 44 people and a 2-week interval, were evaluated using the Pearson Moment Multiplication Correlation (Table 4).

Table-4: Test-retest level of coherence of BESAQ (n=44)

Items	Test		Retest		ICC
	Mean	SD	Mean	SD	
1. During sex, I think that my partner will notice something about the stiffness of my body	0.82	1.11	0.84	1.03	0.909**
2. During sex, I worry that my partner will find the aspects of my body which are not attractive	0.82	1.15	0.75	1.08	0.880**
3. I don't care how my body looks during sexual intercourse	2.61	1.30	2.64	1.04	0.823**
4. Something about my body image makes me shy during sexual intercourse	1.20	1.21	1.27	1.23	0.931**
5. I am comfortable when my partner removes my clothes	1.98	1.55	2.07	1.30	0.900**
6. I prefer hiding my body under a sheet or cover during sex	1.16	1.38	1.23	1.27	0.916**
7. I am comfortable with my partner looking at my sexual organs during sex (I am not uncomfortable)	2.66	1.24	2.70	1.15	0.887**
8. I worry during sex that my partner will find my body repulsive	0.61	0.99	0.86	1.07	0.801**
9. During sex, I worry that my partner will find the appearance or size of my sexual organs insufficient or modest	0.68	0.96	0.86	1.07	0.814**
10. When my partner sees me naked, I hide nothing	2.70	1.37	2.70	1.21	0.778**
11. I think that my body looks sexy during sex	1.89	1.38	1.91	1.29	0.864**
12. During sex, I don't like my partner to see me completely naked	1.30	1.34	1.27	1.21	0.893**
13. When my partner sees me without clothes, I guess that he/she is excited	1.73	1.40	1.77	1.36	0.903**
14. During sex, I prefer not to remove certain parts of my clothes	1.02	1.15	1.16	1.18	0.904**
15. I am aware of my body during sex	2.52	1.61	2.07	1.37	0.849**
16. During sex, I worry that my partner will find the smell and image of my genitalia repulsive	1.20	1.30	1.23	1.18	0.857**
17. I try to hide certain parts of my body during sex	0.80	0.90	0.80	0.95	0.892**
18. During sexual intercourse, I think that certain parts of my body are too modest to be sexy	0.91	1.05	0.86	1.00	0.935**
19. There are parts of my body I don't want my partner to see during sex	0.95	1.01	0.80	0.88	0.872**
20. During sex, I worry about what my partner thinks on how my body looks	0.98	1.21	0.89	1.04	0.912**
21. During sex, I worry about how I feel when my body is touched will make my partner lose interest	0.95	1.08	1.00	1.06	0.817**
22. It is hard to not think about my weight during sex	1.02	1.11	0.98	1.05	0.881**
23. The room being well illuminated during sex makes me be aware of myself	1.41	1.24	1.32	1.09	0.885**
24. I am mostly comfortable with opening sections of my body during sex to my partner	2.00	1.43	1.98	1.49	0.809**
25. During sex, I like my partner to look at my body	1.68	1.55	1.75	1.35	0.897**
26. During sex, I avoid certain postures and positions to hide the places in my body where I don't want my partner to see	1.39	1.30	1.30	1.21	0.870**
27. During sex, thoughts on how certain parts of my body look distract me	1.20	1.11	1.30	1.11	0.891**
28. I am comfortable walking around my partner naked before or after sex	2.05	1.51	2.05	1.26	0.879**

ICC: Intraclass Correlation Coe

When item based correlations for test retest were examined, all of the questions were seen to have coefficients between 0.778 and 0.935. These coefficients show a very good correlation between test and retest, also showing that the questions were understood well (Table 4).

As a result of the pretest, the BESAQ yielded scores between 0.36 and 3.04, with an average of 1.44 ± 0.59 . The retest results varied between 0.43 and 3.04, with an average of 1.44 ± 0.54 , showing no significant difference between the two scores ($p > 0.05$)

Limitation

In our country, many measurement tools and studies on sexual function disorders are present. However, studies examining body image during sex are very limited.

Conclusion

The Body Exposure during Sexual Activities Questionnaire–BESAQ was found to be a valid and reliable measurement tool for pregnant women in our country. It is suggested that the scale should be used in different trimesters of pregnancy or in pregnancies with different conditions.

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