

1. Introduction

In its complement clauses, Persian makes a three-way distinction between **indicative (1)**, **Subjunctive (2)** and **Counterfactual (3)**.

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|---|-----------------------------------|---------------|-----------------|----------------|------------------|-----------------------|
| 1 | <i>midānam</i> | <i>fardā</i> | <i>bārān</i> | <i>miāyad</i> | | |
| | I know | tomorrow | rain | (will) come. | IND.3SG | |
| | I know that it will rain tomorrow | | | | | |
| 2 | <i>xeyli</i> | <i>del-am</i> | <i>mi-xāhad</i> | <i>fardā</i> | <i>bārān</i> | <i>biyāyad</i> |
| | very | my heart | wants | tomorrow | rain | come. SUBJ.3SG |
| | I really want it to rain tomorrow | | | | | |
| 3 | <i>kāš</i> | <i>diruz</i> | <i>bārān</i> | <i>mi-āmad</i> | | |
| | I wish | yesterday | rain | came. | COUNT.3SG | |
| | I wish it had rained yesterday. | | | | | |

Previous works on mood selection in complement clauses in Romance languages and Greek:

Group A truth-based approaches: indicative is selected when the matrix predicate implies the truth of the complement clause. Subjunctive is selected elsewhere.

Siegel 2008: In Romance languages, the indicative comes with a presupposition of the speaker's commitment to the truth of the complement. Subjunctive comes elsewhere. In the Balkan languages, indicative conveys a greater degree of certainty.

Schlenker 2005: In French, indicative is a natural class, which marks an assertive act on somebody's part. Formally speaking, it presupposes that a) the matrix predicate is a thought or speech act, b) the complement is in someone's context set. Subjunctive is the complementary class.

Giannakidou 2011, 2015: In Greek, indicative is selected by veridical predicates, which entail or presuppose the truth of the complement in some individual's epistemic model. Subjunctive is selected by non-veridical predicates.

Group B comparison-based approaches: subjunctive is selected when the matrix predicate involves a comparison between alternatives.

Villalta 2008: In Spanish, a predicate selects subjunctive in its embedded proposition if the proposition is compared to its contextual alternatives on a scale introduced by the predicate.

2. Previous studies of Persian subjunctive: Darzi & Kwak (2015), Ilkhanipour

Darzi and Kwak (2015): They argue that characterizing subjunctive clauses as non-veridical or irrealis does not account for the whole range of Persian data.

Implicative and causative verbs are veridical/realis. Yet, they select subjunctive.

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|---|---|-----------------|------------|---------------|-----------|----------------------|---------------|
| 4 | <i>Ali</i> | <i>movaffaq</i> | <i>šod</i> | <i>šerkat</i> | <i>rā</i> | <i>motaqāʔed</i> | <i>kon-ad</i> |
| | Ali | managed.3SG | | company | D.OM | persuade.PR.SUBJ.3SG | |
| | Ali managed to persuade the company (entails 'Ali persuaded the company') | | | | | | |

Counterfactual situations are irrealis. Yet, they select indicative.

5 *bāyad mirafti unjā*
must go.IND(?).2SG there You should have gone there (presupposes ‘you didn’t go’)

Their solution: The common feature of subjunctive clauses is their tense dependency on the matrix predicate:

- When the matrix predicate is such that its complement clause is always either simultaneous with (e.g., complements to MANAGE) or posterior to (e.g., complements to WANT) the matrix event time, then the matrix predicate selects subjunctive.
- Syntactically, such predicates select for a head C or T with a [-past] feature, which in turn triggers subjunctive morphology for the complement clause.

Problems: A) Epistemic predicates can select past subjunctive (6), and their explanation, dealing with the morphology of past subjunctive, is not satisfactory.

B) Beyond the observation about the tense relations in subjunctive clauses, we need a more detailed classification of predicates which select subjunctive in Persian.

6 *šak dāram Golnāz diruz be kelās rafte bāšad* (perfect ptcl + subj. copula)
doubt.1SG Golnāz yesterday to class go.PT.SUBJ.3SG
‘I doubt that Golnāz went to the class yesterday’

Ilkhanipour (to be published): In response to Darzi and Kwak (2015), she argues that realis/irrealis distinction does account for indicative/subjunctive selection in Persian:

- The complements to implicative and causative predicates represent irrealis situations relative to the matrix predicate: implicative and causative predicates are achievement predicates, and the events described in their complements are not realized at the time of the matrix predicate.

3. Our analysis in a snapshot

We put Persian complement clauses in two main groups:

- **Group 1:** The complement clause is presented as a proposition, i.e., something that can be true or false.
factive (KNOW, BE GLAD), doxastic (THINK, DOUBT), assertive (SAY), perceptive (NOTICE, FEEL), certain preference (WISH, HOPE)
- **Group 2:** the complement clause is not a proposition
preference (WANT), directive (ORDER), causative (FORCE), implicative (FORGET), aspectual (TRY).

We observe that while indicative, subjunctive (past and present subjunctive) and counterfactual moods are all available for complements of group 1, complement clauses in group 2 universally take subjunctive (only present subjunctive).

We argue that mood selection in group 1 is determined by the degree of certainty about the complement proposition on the part of the attitude holder. We propose two possible hypotheses for the mood selection in complement clauses of group 2.

4. Propositional vs. non-propositional complements

Group 1: complement clauses are propositions

- 4a *fekr mikon-ad kār-eš ziyād ast, ke dorost ast*
think-3SG work(load)-his much is.IND.3SG which true is.IND.3SG
 He thinks that his workload is too much, which is true.
- 4b *šak dār-and re'is esteʔfā dāde bāš-ad, vali dorost ast*
doubt-3PL boss resign.PT.SUBJ-3SG but true is.IND.3SG
 They doubt that the chair has resigned, but it is true.
- 4c *goft sāl-e gozašte sāl-e behtari bud, ke dorost ast*
said.IND-3SG year-EZ future year-EZ better was.IND.3SG which true is.3SG
 He said that last year was better, which is true.
- 4d *ehsās mikon-and rābete=šan sard šode ast, ke dorost ast*
feel.3PL relation=their cold has become.IND.3SG which true is.3SG
 They feel that their relationship has become cold, which is true.
- 4e *omidvār ast ke taʔtilāt be mā xoš gozašte bāš-ad, ke dorost ast*
hope.3SG that vocation to us well pass.PT.SUBJ.3SG which true is.3SG
 He hopes that we have had a good vacation, which is true.

Group 2: complement clauses are not propositions

- 4f # *mixāhad ruzhā-ye došanbe dars bedah-ad, ke dorost ast*
want-3SG days-EZ Monday teach.PR.SUBJ-3SG which true is.3SG
 He wants to teach on Mondays which is true
- 4g # *farmānde dastur dād hame benešin-and, ke dorost ast*
 commander **ordered**.3SG all sit.PR.SUBJ-3PL which true is.3SG
 The commander asked everyone to sit, which is true.
- 4h # *majbur=aš kard-and xāne=aš rā beforuš-ad, ke dorost ast*
 forced=him-3PL house=his D.OM sell.PR.SUBJ-3SG which true is.3SG
 They forced him to sell his house, which is true
- 4i # *farāmuš kard ketāb rā pas bedah-ad, ke dorost ast*
forgot.3SG book D.OM back give.PR.SUBJ-3SG which true is.3SG
 He forgot to return the book, which is true

This test does not work for factive predicates (e.g., KNOW, BE GLAD) and those selecting counterfactual mood (e.g., WISH) due to their presuppositional features: we contend that both belong to group 1, selecting propositional complements. However, since factive predicates presuppose the truth of p, and counterfactual predicates presuppose the truth of not-p, they do not pass the test due to the infelicitous repetition of the presupposition.

5. Mood selection in Group 1 (propositional predicates)

Predicates with propositional complements				
Factive (IND) <i>dānestan</i> 'know' <i>xošhāl budan</i> 'be happy'	Doxastic (IND/SUBJ) <i>fekr kardan</i> 'believe' <i>šak dāštan</i> 'doubt'	Assertive (IND) <i>goftan</i> 'say'	Perceptive (IND) <i>didan</i> 'notice'	<i>kāš</i> '(I) wish' (COUNT) <i>omidvār budan</i> 'hope' (SUBJ)

Claim: In this group, the degree of certainty about the truth of the complement proposition determines the mood:

- Indicative conveys high degree of certainty about p on the part of the attitude holder,
- Counterfactual presupposes not-p,
- Subjunctive conveys no commitment about the truth of p.

a) Factive, assertive and perceptive predicates entail or presuppose the truth of their complement proposition. They universally select indicative (5-8)

b) The counterfactual mood in the complement clause presupposes not-p.(9-10)

NEUTRAL FACTIVE PREDICATES

- 5 *mīdān-am ke in ketāb rā xeyli dust dārad.*
 know.1SG that this book D.OM very like.IND.3SG
 I know that she likes this book very much.

EMOTIVE FACTIVE PREDICATES

- 6 *dustān=am hasrat xordand ke Tehran nīstand*
 friends=my regretted.3PL that Tehran NEG.is.IND.3PL
 My friends regretted that they were not in Tehran.

ASSERTIVE PREDICATES

- 7 *vazīr ezhār kard bāzār-e maskan az rokud dar āmade ast.*
 minister said.3SG market-EZ real estate from recession come out.IND.3SG
 The minister said that the real estate market has come out of recession.

PERCEPTIVE PREDICATES

- 8 *ehsās mikonand rābete=šān sard šode ast*
 feel.3PL relationship=their cold has become.IND.3SG
 They feel that their relationship has become cold.

COUNTERFACTUAL MOOD

- 9 *kāš ne mi-porsid-i*
 I wish NEG ask.PR.COUNT-2SG
 I wish you didn't ask. (presupposes 'you asked')
- 10 *kāš zudtar āmade bud-and*
 I wish earlier came.PT.COUNT-3PL
 I wish they had come earlier. (presupposes 'they didn't come on time')

c) Doxastic predicates may select indicative or subjunctive, depending on the degree of certainty conveyed by the matrix predicate. In general, it is the attitude holder's perspective which determines the mood, and not that of the speaker.

Degree of certainty

<i>baʔid dānestan/ fekr nakardan</i> 'consider unlikely'	<i>šak dāštan</i> 'doubt'	<i>gomān kardan</i> 'conjecture'	<i>fekr kardan</i> 'think'	<i>bāvar dāštan; goftan</i> 'believe'	<i>motmaʔen budan</i> 'be sure'
SUBJ.	SUBJ.	SUBJ./IND.	IND./SUBJ.	IND.	IND.

- 11 *baʔid midānam rahbari hozur-e u rā tayid karde bāšad*
unlikely consider.1SG leader candidacy-EZ he DO.M confirm.PT.SUBJ.3SG
 I consider it unlikely that the supreme leader has confirmed his candidacy.
- 12 *gomān mikonam Morino bemān-ad*
conjecture.1SG Morino stay.PR.SUBJ-3SG
 I presume Morino (will) stay.
- 13 *gomān mikonad hemāyat-e majles baʔes-e afzāyeš-e raʔy=aš mišavad*
conjecture.3SG support-EZ parliament cause-EZ increase-EZ vote=his become.IND.3SG
 He presumes that the support of the parliament (will) increase his vote.
- 14 *u miguy-ad Ruhāni dobāre entexāb mišav-ad*
he say-3SG Ruhāni again elected become.IND-3SG
 He believes that Ruhāni will be elected again.
- 15 *man motmaʔen hastam fardā bārān miāy-ad*
I be sure.1SG tomorrow rain come.IND-3SG
 I am sure that tomorrow it (will) rain.

Unlike in Romance languages for which Siegel argues that the use of indicative comes with a presupposition of speaker's commitment, in Persian the use of indicative commits the attitude holder to the truth of the complement, not the speaker. (Indicative $\not\rightarrow$ Speaker's commitment)

- 16 *hame fekr mikon-and reʔis be zudi esteʔfā midah-ad, vali man fekr nakon-am esteʔfā bedah-ad.*
all think-3PL boss soon resign.IND-3SG but I think.NEG-1SG resign.PR.SUBJ-3SG
 Everyone thinks that the chair will resign soon, but I don't think he will.

So the use of indicative does not imply speaker's commitment. But, if the speaker intends to convey the truth of the complement or if he presupposes the truth of p, he can use indicative in the contexts which otherwise select subjunctive. (Speaker's commitment \rightarrow use of indicative)

- 17 *šak dāštand ke reʔis estaʔfā bedahad*
doubted.3PL that boss resign.SUBJ.3SG
 They doubted that the chair would resign.
- 18 *šak dāri ke hess xatā mikonad?*
doubt.2SG that sense err.IND.3SG
 Do you doubt that (our) senses make mistakes?
- 19 *takzib mikon-and ke az dowlat pul gerefte bāšand*
deny-3PL that from government money take.PT.SUBJ-3PL
 a) *man ham fekr nakon-am pul gerefte bāšand*
I also think.NEG-1SG money take.PT.SUBJ-3PL
 I also think that they didn't take it.
 b) *vali man fekr mikon-am doruq miguy-and*
but I think-1SG lie tell.IND-3PL
 They deny that they took money from the government,
 a) I also think that they didn't take it.
 b) but I think they are lying.
- 20 *takzib mikon-and ke az dowlat pul gerefte and,*
deny-3PL that from government money take.IND-3PL
 # *man ham fekr nakon-am pul gerefte bāšand*
I also think.NEG-1SG money take.PT.SUBJ-3PL

They deny that they have taken money from the government,
 # I also think that they didn't take it.

Summary of mood selection in group 1:

Description	p is taken to be true	not-p is taken to be true	Both p and not-p are considered as possible
Selected Mood	Indicative	counterfactual	subjunctive

6. Mood selection in Group 2

Predicates with non-propositional complements			
Preference (SUBJ) <i>xāstan</i> 'want' <i>tarjih dādan</i> 'prefer'	Directive (SUBJ) <i>dastur dādan</i> 'order' <i>darxāst kardan</i> 'request'	Causative (SUBJ) <i>majbur kardan</i> 'force'	Implicative (SUBJ) <i>movafaq šodan</i> 'manage' <i>farāmuš kardan</i> 'forget'

Two hypotheses:

A. Non-unified analysis: In Persian, mood in complement propositions is selected based on the degree of certainty of the complement proposition (as explained about group 1). When there is no proposition involved in the complement clause, as is the case with group 2, subjunctive is selected as the default mood.

This hypothesis explains the rather diverse classes of predicates of group 2, which includes both attitude predicates (PREFERENCE) and non-attitude ones.

This hypothesis is in line with Schlenker's analysis of subjunctive in French which considers indicative as a natural class, and subjunctive as the complement to a natural class.

This hypothesis may explain other uses of subjunctive than in complement clauses, e.g., in optative or suggestive sentences.

Question: Why is it that the subjunctive is the default mood? What is the relation between uncertain propositions and non-propositional complements?

B. Unified analysis: In Persian, subjunctive in complement clauses marks the uncertain situations.

- In group 1, the source of uncertainty is lack of knowledge on the part of the attitude holder.
- In group 2, the source of uncertainty lies in the semantics of the matrix predicates, all of which are future-oriented: the matrix time precedes or is included in the embedded event time, and the embedded event is not realized or culminated at the time of the matrix time.

Sentences with preference predicates of type WANT and directive predicates: they leave it uncertain whether or not the complement clause gets realized.

Sentence with causative and implicative predicates:

- 21 *movaffaq šod-and bāzi rā bebarand*
managed-3PL game D.OM **win.SUBJ.3PL**
They managed to win the game (entails ‘they won’)
- 22 *yādaš raft biyāyad*
forgot.3SG **come.SUBJ.3SG**
He forgot to come (entails ‘he did not come’)

Baglini & Francez’ (2016) proposed semantics for MANAGE: sentences with MANAGE are felicitous only in contexts where “it is assumed that there was, at a contextually specified time, a situation in which the truth of the prejacent (=complement) was undetermined”. If this element of uncertainty about the accomplishment of the complement can be extended to all the Persian implicative and causative predicates, it can justify their selection of subjunctive in Persian.

Question: Why are the predicates that select non-propositional complements all future-oriented?

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