

Semantic Structures of Polysemous Psych-adjectives in Korean: A Conceptual Semantics Approach

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Abstract. Although researches have been conducted on the polysemous nature of some Korean psych-adjectives, no consensus has been made on the criteria used for evaluating the polysemy. Furthermore, few formalizations (semantic structures) have been proposed for the polysemous phenomena. The purpose of this paper is twofold: 1) to propose new criteria for distinguishing polysemous psych-adjectives from monosemous ones, and 2) to provide exact semantic structures for the polysemous psych-adjectives. For the second goal in particular, I will work under the framework of Jackendoff's Conceptual Semantics.

Keywords: Korean psych-adjectives, Conceptual Semantics, polysemy.

1. Introduction

The idiosyncratic syntactic behaviors of psych-predicates in many languages have attracted linguists around the world since 1960s. Korean psych-adjectives, however, are also interesting from the semantic perspective; that is, some of them seem to be polysemous between the meanings of one's purely psychological state and the objective property of an entity. Contrary to the arguments for the polysemy (e.g. S Kim 1994, H-K Yoo, J-N Kim 2005), it has not been recognized by many syntacticians and all the psych-adjectives have been treated as monosemous with the meaning of psychological state (e.g. Y-J Kim 1990, J-H Han 1999, Gerdts & Yoon 2001).

Although researches have been conducted on the polysemous nature of some Korean psych-adjectives, no consensus has been made on the criteria used for evaluating the polysemy. Furthermore, few formalizations (semantic structures) have been proposed for the polysemous phenomena. The purpose of this paper is twofold: 1) to propose new criteria for distinguishing polysemous psych-adjectives from monosemous ones, and 2) to provide exact semantic structures for the polysemous psych-adjectives. For the second goal in particular, I will work under the framework of Jackendoff's Conceptual Semantics.

2. Polysemous Korean Psych-adjectives

Although most studies that deal with the syntactic phenomena of psych-adjectives consider them as monosemous, some researchers who focus on the semantics of Korean adjectives have shown that the meanings of psych-adjectives are not just all monosemous (e.g. C Lee 1976, S Kim, H-K Yoo 1998, J-N Kim 2005). In this section, I will examine some of their arguments and show that they are problematic in one way or another.

2.1. S Kim (1994)

Among the researches that deal with the polysemy of Korean psych-adjectives, S Kim (1994) was the first to try to formalize the polysemy. Working under the framework of Conceptual Semantics, S Kim divides Korean adjectives into three groups: property adjectives, psych-adjectives, and quasi-psych-adjectives. According to him, property adjectives and psych-adjectives can be distinguished by whether the predicate requires experiencer as its argument. Quasi-psych-adjectives are adjectives that show characteristics of both property adjectives and psych-adjectives.

S Kim (1994) defines quasi-psych-adjectives as adjectives that basically describe the objective property of an entity but still needs experiencer as its argument. (1) shows predicates that belong to each group suggested by S Kim (1994: 44-49), and Table 1 shows the main criteria used for distinguishing one another.

- (1) a. Property Adjectives: *alumtapta* ‘beautiful’, *chakhata* ‘good-natured’, etc.
- b. Psych-adjectives: *yasokhata* ‘unkind, unfeeling’, *silhta* ‘dislike’, etc.
- c. Quasi-psych-adjectives: *kwiyepta* ‘cute’, *salangsulepta* ‘lovely’, etc.

Table 1: Criteria of identifying three kinds of Korean adjectives

	combine with ‘-e ha-’	modification	stage-level vs. individual-level
property	impossible	possible	individual-level only
quasi-psych	possible	possible	both
psych	possible	impossible	both

According to S Kim, the first criterion, possibility of being able to combine with ‘-e ha-’ construction, is to find out whether the predicate requires experiencer as its argument, and the second and the third criteria, the possibility of being able to be used in modifying NPs and the possibility of being able to represent stage-level state, are to figure out whether the predicate represents the objective property of an entity.

In addition to this distinction, he further divides psych-adjectives into two groups based on whether the predicate takes stimulus as its obligatory argument or not. Thus, he proposes three lexical conceptual structures (LCSs) for the adjective *mwusepta* as in (2).

- (2) LCS for *mwusepta* ‘scary/scared’ (S Kim 1994: 55)
 - a. *mwusepta*¹ (EXP, THEME)
[STATE BE/FEEL (x, [PLACE AT *mwusewum*] [y])]
 - b. *mwusepta*² (EXP)
[STATE BE/FEEL (x, [PLACE AT *mwusewum*])]
 - c. *mwusepta*³ (THEME)
[STATE BE/FEEL (x, [AT *mwusewum*]¹ [y])]

By the LCSs S Kim (1994) provides, we can see that he considers *mwusepta* ‘scary/scared’ as a quasi-psych-adjective ((2a,b) vs. (2c)) and its stimulus argument as optional rather than obligatory ((2a) vs. (2b)). S Kim’s analysis, although well captures the polysemous nature and optionality of stimulus of the predicate, is problematic in two respects.

First, he does not have to posit two independent LCSs for (2a) and (2b) in order to show that the stimulus argument is optional. By positing separate LCSs, he argues that (2a) and (2b) should be thought of as two different lexemes. However, I do not find any reason for that. We can put the stimulus, i.e., [y] in (2a), in a parenthesis and capture the semantic similarity between the two, instead of arguing they are totally different lexemes, which is absolutely against our intuition.

¹¹ His missing the function PLACE seems to be a simple mistake.

Second, there is no difference between the LCS for *mwusepta*¹ and the LCS for *mwusepta*³ at all. With leaving the two LCSs being the same, he just distinguishes the two by positing different argument structures, (EXP, THEME) and (THEME). In fact, the function BE/FEEL is what he made in order to distinguish the objective property of an entity from one's psychological state. That is, BE refers to the objective property while BE/FEEL requires experiencer as its argument and refers to one's psychological state. However, he does not use these two functions in distinguishing *mwusepta*¹ from *mwusepta*³. Furthermore, the meaning of the predicate in (2c) is an objective property of an entity, which means the LCS, as that of any other property adjectives, is natural with only one argument in the conceptual structure.

2.2. H-K Yoo (1998)

Following S Kim (1994), H-K Yoo (1998) also points out the polysemous nature of some psych-adjectives. She classifies Korean adjectives into two broad categories, subjective and objective adjectives, in terms of the thematic role of the subject the predicate takes. If the predicate requires experiencer as its subject then it belongs to subjective adjectives, and if theme or location is required, the predicate is an objective adjective.

Subjective adjectives are further divided into psych-adjectives, perceptive adjectives and evaluative adjectives according to the types of complements the adjectives take. Objective adjectives fall into various kinds of adjectives depending on their syntactic and semantic characteristics, but the majority of them fall into property/state adjectives which represent property (individual-level) or state (stage-level) of an entity.

Among property/state adjectives, H-K Yoo (1998) argues, some adjectives are also used as subjective psych-adjectives. The adjectives that she suggests to be able to refer to both objective and subjective state include *yeypputa* 'pretty/adore', *kwiyepta* 'cute/feel cute', *cohta* 'good/like', *mwusepta* 'scared/scary', *mipta* 'ugly/hate'.

The criteria she suggests for determining whether the predicate is ambiguous or not is the case frame; that is, if the predicate can take both 'NP1-NOM NP2-NOM Adjective' and 'NP1-NOM Adjective' frames, it is thought to be polysemous. However, in her actual analysis, she determines whether the predicate is ambiguous by just considering whether the predicate can occur with experiencer argument regardless of the case marked on it. This is problematic because not only psych-adjectives but other objective adjectives can take (DAT)-TOP-marked experiencer as shown in (3).

- (3) a. *na*-(*eykey*)-*nun* *i* *paci-ka* *nemwu* *kilta*
 I-DAT-TOP this pants-NOM too long
 'As for me, these pants are too long.'
 b. *ku*-(*eykey*)-*nun* *ku* *kicha-ka* *nemwu* *ppaluta*
 he-(DAT)-TOP the train-NOM too fast
 'As for him, the train is too fast.'

According to H-K Yoo's (1998) criteria, the adjectives *kilta* 'long' and *ppaluta* 'fast', which are apparently not psych-adjectives, also must be treated as subjective psych-adjectives, because they can occur with experiencers *na* 'I' (3a) and *ku* 'he' (3b).

2.3. J-N Kim (2005)

J-N Kim (2005) criticizes the approaches taken by S Kim (1994) and H-K Yoo (1998) that regard psych-adjectives as having two different meanings, that is, psychological state/property (S Kim 1994) or objective/subjective (H-K Yoo 1998).

Instead, he contends that the key to the understanding of the polysemous nature of the adjectives is to look into the context, or construction, in which the adjective is used. If the

adjective is used as either the subjective (psych) or objective (property) predicate, it is the construction not the adjective itself that gives rise to the different readings.

By this way, he tries to avoid positing quasi-psych-predicates or predicates that have both subjective and objective meanings. This solution, at first glance, seems plausible and even desirable, as J-N Kim argues, in that there is no need to posit an additional category like quasi-psych-adjective or to posit two different meanings for one word. However, his solution eventually ends up positing two different categories for adjectives in order to explain the polysemy-like phenomena and it is fundamentally not different from the former approaches.

The two categories he postulates are “correlative” and “non-correlative” adjectives. Correlative adjectives are adjectives that describe the state or characteristic of an entity with regard to other entities, whereas non-correlative adjectives are adjectives that describe the state or characteristic of an entity without regarding any other entity.

There are two reasons that this solution is no better than the former approaches. First, the distinction between the two categories, correlative and non-correlative, must be made on the basis of the number of “semantic” argument that the predicate requires, and the number of arguments the predicate requires are determined ultimately by the meaning of the predicate itself. That is, instead of using the context or the construction as the criterion of distinguishing the two types of categories as he originally suggests, J-N Kim uses the meaning of the adjectives as the criterion for the distinction between correlative and non-correlative adjectives.

Furthermore, some predicates categorized as correlative adjectives by J-N Kim are also used as non-correlatives (e.g. *maypta* ‘hot, feel hot’ and *cohta* ‘good, like’) and among what he classifies as non-correlatives are predicates that can also be used as correlatives (e.g. *tepta* ‘hot, feel hot’ and *sulphuta* ‘sad, feel sad’). Thus, his suggestion is just another kind of typology of Korean adjectives based on the lexical meaning of predicates and not fundamentally different from what the previous researchers have suggested.

2.4. New Criteria for Polysemous Korean Psych-adjectives

Instead of J-N Kim’s typology, I prefer the former typologies that divide adjectives into two broad groups whether they belong to psychological (subjective) state or to (objective) property, because I believe this distinction fits better to our intuition.

Following S Kim and H-K Yoo, I argue that many of the predicates that have been treated as monosemous psych-adjectives in most previous researches are in fact polysemous between two meanings: objective property and one’s psychological state. Basically agreeing with S Kim and H-K Yoo (1998), I propose further convincing evidence, some of which have also been briefly mentioned by S Nam (2007), that show the polysemy of some psych-adjectives.

The first evidence comes from the fact that some psych-adjectives can take either animate or inanimate NOM-marked arguments as their subject. This is strange if the adjective has only one meaning of referring to one’s psychological state, because inanimate entities cannot have any psychological state. For example, we can see by (4) that what is known as a psych-adjective *kipputa* ‘pleased’ is acceptable only when it takes an animate NOM-marked argument.

- (4) a. *nay-ka/nun* (*kipputa/mwusepta*).
 I-NOM/nun pleased/scared
 ‘I am pleased.’
 b. *ku inhyeng-i/un* (*#kipputa/mwusepta*).
 the doll-NOM/TOP pleased/scary
 ‘The doll is pleased.’

On the other hand, another psych-adjective *mwusepta* ‘scared, scary’ can be used with both an animate and an inanimate NOM/TOP-marked NP. This indicates that *mwusepta* ‘scared, scary’ is somewhat different from *kipputa* ‘pleased’ and the difference is that *mwusepta* ‘scared, scary’, unlike *kipputa* ‘pleased’, can refer not only to one’s psychological state but also to an objective

property of an entity. We can see this by the fact that the natural interpretation of (34b) with the predicate *mwusepta* is only ‘The doll is scary’ but not ‘The doll is scared’.

The second evidence comes from the possibility of modification. Modification was already suggested by S Kim as one of the tests that distinguish property from psychological state, but the possibility of being able to modify a NP itself cannot be a valid one. What is important is the fact that some psych-adjectives can be used to modify an inanimate NP and represent the property not the psychological state of the modified NP.

(5a) is clearly different from (5b) in that the adjective *cilwuhata* ‘boring/bored’ can both represent the properties of the inanimate NPs and the psychological states of the animate NPs that they modify, while *kipputa* ‘pleased/happy’ can only modify the psychological states of the animate NPs.

- (5) a. *cilwuhan* *pulloku/kkwum/yenghwa/Jane/Tom/tongsayng* ...
 boring *blog/dream/movie/Jane/Tom/brother* ...
 ‘boring *blog/dream/movie*’
 b. *kippun* *#pulloku/#kkwum/#yenghwa/Jane/Tom/ tongsayng...*
 happy *blog/dream/movie/Jane/Tom/brother* ...
 ‘happy *#blog/#dream/#movie/Jane/Tom/brother*’

Some might argue that *kipputa* ‘pleased’ can be thought of also as a property adjective in the sense that it can modify the inanimate NPs like *nal* ‘day’ and *sosik* ‘news’ as in *kippun nal* ‘happy day’ and *kippun sosik* ‘happy news’. However, it is different from other property adjectives since it does not pass the first criterion. Although *kipputa* can modify the NPs *nal* ‘day’ and *sosik* ‘news’ it cannot be used as a predicate with the same NPs as in (6).

- (6) *ku nal/sosik-i kipputa.*
 the day/news-NOM happy
 #‘The day/news is happy.’
 ‘(I am) happy with the day/news.’

As shown in (6), the sentence is unacceptable with the adjective’s referring to the property of *ku nal* ‘the day’ or *ku sosik* ‘the news’. But it is much more natural if the experiencer argument *na* ‘I’ is thought to be ellipsed and the predicate refers to the psychological state of the experiencer. This shows that *kipputa* ‘pleased’ refers to the psychological state of the abbreviated experiencer rather than the objective property of the modified NPs like *nal* ‘day’ and *sosik* ‘news’.

One thing to note is that *kippun* in *kippun sosik* ‘happy news’ or *kippun nal* ‘happy day’ nevertheless can be thought of as referring to the property of *sosik* ‘news’ or *nal* ‘day’ intuitively. I attribute this characteristic, as H-K Yoo (1998) also noticed, to the semantic change the adjective is going through. That is, *kipputa* ‘pleased’ originally meant only one’s psychological state but its meaning is becoming ambiguous between ‘pleased’ and ‘pleasing’ at least when it modifies the NP *sosik* ‘news’ or *nal* ‘day’ as time goes by.

In fact, this kind of semantic change, whether from psychological state to property or from property to psychological state, is often found cross-linguistically. For example, the English word *sad*, which originally meant one’s psychological state, is now not only used as referring to one’s psychological state but also as referring to the property of an entity in sentences like *This book is sad*.

The third evidence is that DAT experiencer cannot go along with the adjective that is used with the meaning of one’s psychological state as in (7). In response to the question (7a), one can use TOP/NOM experiencer but not DAT experiencer as (7b) shows. If the psych-adjective can take DAT experiencer as most previous studies have acknowledged, this must be a crucial problem.

- (7) a. ne cikum kipwun-i etteni?
 you now feeling-NOM how
 ‘How do you feel now?’
 b. na-(**eykey/nun/??ka²*) sulphew/mwusewe/kippe
 I-DAT/TOP/NOM sad/scared/pleased
 ‘I am sad/scared/pleased.’

This, at least indirectly, shows that the psych-adjective itself in DAT experiencer constructions is not the psych-adjective but the property adjective in S Kim’s term or the objective adjective in H-K Yoo’s term. The adjective can refer to one’s psychological state only when the experiencer argument is assigned NOM or TOP.

Then, there arises a problem of DEC’s being understood as a psych-construction and synonymous with its counterpart NEC. How can the construction with no psych-adjective be used as a psych-construction? I argue that this is due to the semantic similarity of one’s psychological state and one’s subjective evaluation.

What has been called property adjectives in the paper so far are also called evaluative adjectives (e.g. Jackendoff 2007). Evaluative adjectives can represent either subjective or objective evaluation depending on the existence of a specific evaluator in the sentence.

- (8) Objectification and Subjectification (Jackendoff 2007: 240)

Y BE [Property λz [X BE [F (z)]]] □ default
 (e.g. Y is interesting to X)

Y BE [Property λz [YA BE [F (z)]]]
 (e.g. Y is interesting)

(where Y is the entity being evaluated, X is the experiencer, and YA is the generic perceiver)

As shown in (8), Jackendoff (2007) proposes the mechanism that accounts for how evaluative predicates are sometimes used as subjective evaluation and sometimes objective evaluation. If a specific evaluator is introduced by to X form then the construction becomes subjective evaluation whereas the construction is used as objective evaluation with no specific evaluator, which, according to Jackendoff, is a default construction.

I agree with Jackendoff’s basic idea on the subjectification and objectification above, but I differ from him on the LCS of the evaluative predicates. Jackendoff originally distinguishes property/evaluative adjectives from psych-adjectives on the level of the thematic tier as in (9), but later he argues that the distinction on the level of the macrorole tier is enough as in (10).

- (9) a. Frank is amazing to Sam.
 FRANK BE [λz [SAM BE [AMAZED (z)]]]
 SAM EXP FRANK

- b. Sam is amazed at Frank.
 SAM BE [AMAZED (FRANK)]
 SAM EXP FRANK

- (10) a. Frank is amazing to Sam.
 SAM BE [AMAZED (FRANK)]
 SAM EXP FRANK

- b. Sam is amazed at Frank.
 SAM BE [AMAZED (FRANK)]
 SAM EXP FRANK

(Jackendoff 2007: 237)

² The reason why NOM on the experiencer argument makes the sentence sound strange seems the matter of pragmatics not of syntax or semantics. That is, the pragmatic information that NOM carries causes conflicts with the question (7a). Explaining the exact mechanism regarding this phenomenon is beyond the scope of this paper.

First, in (9a), Jackendoff paraphrases the sentence as ‘Frank is such that Sam is amazed at’ and proposes FRANK BE [λz [SAM BE [AMAZED (z)]]] as the thematic tier, in which the notation λz can be read informally as ‘such that’ and the bound variable z that serves as argument of AMAZED can be read as the resumptive pronoun ‘him’.

Although this lambda abstraction very well captures the meaning of evaluation/property and the semantic difference between psychological state and evaluation/property, he does not give any detailed semantic analysis of one’s psychological states such as *interested*, *bored*, *scared*, etc. Instead, he just uses the state function BE and the words themselves for representing the conceptual structures of the words, which causes the circulation problem and thus cannot be the satisfying semantic (or conceptual) representation of the words.

Moreover, as shown in (10), he argues that (9a) and (10a) are “logically equivalent” and the prominence of stimulus in (9a) can be captured on the level of the macrorole tier by underlining a more prominent argument. This means that “EXP, unlike AFF, does not inherently determine which macrorole is linked to subject position. Rather, each EXP verb must individually mark its subject” (Jackendoff 2007: 235).

3. Formalization of the Polysemy: A New Conceptual Semantics Approach

Among several semantic theories that deal with LCS, we use Jackendoff’s (1983, 1990, 2002, 2007) Conceptual Semantics as our framework. The motivation for using Conceptual Semantics comes from our view on the overall architecture of the language faculty. That is, we take the tripartite parallel model as more realistic than Chomskyan syntactocentric models in accounting for human language faculty, and Conceptual Semantics, unlike many other LCS theories that go along with the syntactocentric models (e.g. Hale & Keyser 1992, 1993, Zubizarreta & Oh 2007, Ramchand 2008), is the semantic theory that best fits the model.

Despite its success in analyzing various kinds of domains of concepts like spatial concepts, Conceptual Semantics had made little progress in dealing with psych-predicates before Jackendoff (2007) introduced a new function called EXP which belongs to a new level of conceptual structure called macrorole tier.

Following Culicover & Wilkins (1986) and Talmy (1985), Jackendoff (1990:128) argues that “conceptual roles fall into two tiers: a thematic tier dealing with motion and location, and an action tier dealing with Actor-Patient relations.” In addition to Actor and Patient, Jackendoff (2007) adds two more conceptual roles, Experiencer and Stimulus, to the action tier and call it macrorole tier. He proposes an independent motivation for doing so. By postulating the two functions in the macrorole tier, the semantic difference, for instance, between see and look at can be captured as in (11) (Jackendoff 2007: 205).

- (11) a. X looks at Y
 X SENSEvisual Y
 X AFF
 b. X sees Y
 X SENSEvisual Y
 X EXP Y
- (12) a. What I did was look at/*see the tree.
 b. I am looking at /*seeing the tree.

That is, (11) captures important differences between see and look at. First, the look at denotes an action while see a psychological state (cf. (12)), and this is captured by positing two different functions at the macrorole tier, thus making the subject of look at as Actor and the subject of see as Experiencer. Secondly, one can look around without particularly looking at anything, while one cannot see without seeing anything. Each of these characteristics is also naturally captured on the level of the macrorole tier, in which the second argument of look at does not exist while that of see is Stimulus. Furthermore, positing AFF and EXP on the level of the macrorole tier also helps to account for the semantic difference between psych-adjective constructions and

[psych-adjective + *-e ha-*] constructions that has caused a lot of conflicts among researchers (cf. I Kim 2007).

Regarding the semantic difference between psychological states (e.g. bored/interested/scared) and evaluation/property (e.g. boring/interesting/scaring) discussed above, the only previous formalizations of the difference are Jackendoff's (2007) lambda abstraction (cf. (9)) and S Kim's (1994) distinction between BE and BE/FEEL.

However, the two formalizations are problematic as discussed above; that is, Jackendoff (2007) argues the difference is just a matter of prominence (cf. (9) vs. (10)), and S Kim just posits a new function BE/FEEL for psychological predicates without changing anything else. Instead, we propose two different conceptual structures for evaluation/property and psychological state as in (13).

- (13) a. Conceptual Structure of Objective Property/Evaluative Adjectives
 (e.g. boring, interesting, scary, ...)
 thematic tier: [_{State} BE ([X], [_{Property} FEELING_d])]
 macrorole tier: EXP X
- b. Conceptual Structure of Subjective Evaluative Adjectives
 (e.g. boring to y, interesting to y, scary to y, ...)
 thematic tier: [_{State} BE ([X], [_{Property} λz [_{State} FEEL ([Y], [FEELING_d (z)])])]
 macrorole tier: Y EXP X
- c. Conceptual Structure of Psychological State Adjectives
 (e.g. bored, interested, scared, ...)
 thematic tier: [_{State} FEEL ([X], [_{Property} FEELING_{i/d} <(Y)>])]
 macrorole tier: X EXP (Y)

Conceptual structures in (13) have several characteristics that make them better than LCSs that have been introduced by others so far. First, regarding the conceptual structure of property/evaluation adjectives, I argue that the default structure is like (13a). This is the same as the conceptual structures of any other property adjectives such as *long*, *blue*, and *big*. By positing (13a), I reject Jackendoff's idea that experiencer is a generic perceiver or YA for objective evaluation. Instead, I argue that when people utter the sentence *This book is boring*, they do not think that everybody is bored with the book but that the book has boredom as its inherent property as other properties such as its size, color, etc. My argument is justified by the following possible conversation between two people.

- (14) A: SPE is really boring!
 B: No! It is the most interesting book in the world no matter how you or anybody evaluates it!

In B's response to A's utterance, (s)he does not care about anybody's evaluation of the movie and insists that SPE is the most interesting book in the world. It is important to note that B's utterance cannot mean that B intends to say the book is interesting to everybody but must be interpreted that he intends to say that the book is interesting by its inherent nature no matter how people evaluate it. In this sense, (13a) better represents the conceptual structure of objective evaluation than (8) does. And in this sense, it is important to note that property/objective evaluation does not refer to one's mental state and does not have experiencer at its macrorole tier, whereas subjective evaluation does represent one's mental state and has the function EXP at the macrorole tier. In addition, the same function EXP on the macrorole tier for both subjective evaluation and psychological state captures the fact that the two constructions are construed as synonymous psych-constructions.

Second, the fact that the default structure of evaluative/property adjectives, which is (13a), has only one argument but (13b) has two arguments implies that the argument Y in (13b) is optional. That is, it is not the main argument that the adjective necessarily takes; rather, its syntactic status is closer to adjunct.

Third, as for the subjective evaluation, the highest argument on the thematic tier is the second argument of EXP on the macrorole tier (cf. (13b)). This captures the fact that the first argument on the thematic tier X is not the experiencer but the stimulus which evokes the feeling in Y's mind. On the other hand, the conceptual structure of psychological state has the highest argument on the thematic tier linked to the first argument of the EXP on the macrorole tier (cf. (13c)). This captures the fact that the first argument X is the one who feels the feeling evoked by the stimulus Y.

The Fourth characteristic of the conceptual structures in (13) is that (13a) and (13c) differ from each other with respect to the functions that take ([X], [Property FEELING]) as their arguments. While the function is BE for property/objective evaluation, it is FEEL for psychological state. Here, the function FEEL is a newly proposed function for the meaning of psychological state, and the motivation for the new function comes from the ambiguity that sentences have as in (15).

- (15) na-nun/(ka) caymissta/mwusepta ...
 I-TOP/(NOM) (amusing/amused)/(scaring/scared)
 'I am (amusing/amused)/(scaring/scared).'

As in (15), polysemous adjectives like *caymissta* 'amusing/amused' or *mwusepta* 'scary/scared' make the sentence ambiguous. Without introducing a new function for the meaning of psychological state, it is impossible to show the ambiguity of the sentences in (15). For the same reason, S Kim (1994) proposed a new function BE/FEEL, but we see no reason to include BE in the new function.

Last, the subscripts on the function FEELING helps to capture the further difference between property/evaluation adjectives and psychological state adjectives. Jackendoff (2007) divides psych-adjectives into two groups according to the nature of the psychological state they refer to. That is, some psych-adjectives can refer to "pure feelings" or feelings connected to a particular stimulus, and others can refer to only feelings that are directed toward a stimulus.

- (16) Distinction between Inherent/Directed Feelings (Jackendoff 2007: 227)
 a. Inherent or directed feelings (e.g. bored, calm, depressed, happy)
 [Property F_i, <(Z)>]
 (where <(Z)> denotes an optional argument)
 b. Directed feelings (e.g. amazed, amused, interested, pleased)
 [Property F_d, (Z)]

The division of the psychological state into two groups is motivated language-independently as pointed out by Jackendoff (2007).

This difference between "pure feelings" and "directed feelings" does not appear to have anything to do with language. Rather, it appears to arise from the character of human experience. Research on cultural universals of emotion (Ekman and Davidson 1994) seems to show that certain aspects of experience can be characterized as "moods" or "pure emotions," independent of surroundings; these include being happy, sad, calm, nervous, scared, and upset. Others are intrinsically "directed motions," such as being attracted, disgusted, interested, humiliated, or ashamed; these require connection to a stimulus in the environment (or in one's mind). However, the "pure emotions" can also be directed at or connected to some particular stimulus. (Jackendoff 2007: 225).

The distinction between "inherent feelings" and "directed feelings" in (16) captures the difference between property/evaluation and psychological state in the sense that property/evaluation necessarily requires the FEELING to be directed since the stimulus argument is obligatory in the conceptual structure of objective and subjective evaluation. This is captured by attaching _d to FEELING for property/evaluation as in [Property FEELING_d], whereas _{i/d} to FEELING for psychological state as in [Property FEELING_{i/d}].

4. Conclusion

In this paper, I have examined previous studies on the Korean polysemous psych-adjectives and their problems. In order to solve the problems, I proposed new criteria that can distinguish polysemous psych-adjectives from monosemous ones. Also, I have tried to provide exact semantic structures of the polysemous psych-adjectives using Conceptual Semantics. In doing so, I proposed a new function FEEL so that it can represent the meaning of one's pure psychological state.

This study deals with only semantic aspects of the psych-adjectives but it can and should be used for explaining idiosyncratic syntactic behaviors of the predicates, their case marking systems in particular. For achieving this goal, further studies have to be conducted on the syntax-semantics interface of these predicates.

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