

The Model of Human Occupation Clearinghouse  
Department of Occupational Therapy

**College of Applied Health Sciences**

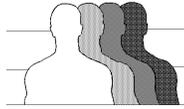
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*in collaboration with*  
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Gary Kielhofner, DrPH, OTR, FAOTA

A User's Manual for

# **THE ASSESSMENT OF COMMUNICATION AND INTERACTION SKILLS (ACIS)**

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Version printed 1998

**UIC** UNIVERSITY OF ILLINOIS  
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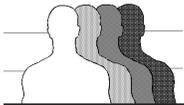
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## I. THEORETICAL BACKGROUND TO THE ASSESSMENT OF COMMUNICATION AND INTERACTION SKILLS

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### Communication and Interaction Skills

Communication and interaction skills are actions directed at others and/or at objects or processes in which the self and others have common interest. So for example, one can point to another to indicate that it is he/she to whom one is directing a request to help carry supplies to a work area. Conversely, one may point to a box to indicate that it is the object containing the necessary supplies. In both cases the communication/interaction skill was directed to both an occupational form (i.e., the work to be done) and a social dimension (i.e., engaging the help of another and providing necessary information to enable the other to collaborate).

Occupational therapists are concerned with how communication and interaction skills are used to accomplish some occupational form. Just as persons use motor skills to accomplish most occupational forms, they also employ skills to effectively communicate and interact with others when completing an occupational form.

That communication and interaction skills are an important part of occupational competence is underscored by the social nature of most of our occupational behavior. While there are some occupational forms that we routinely do by ourselves (e.g., self-care, hobbies), a large proportion of occupational behavior is typically done with others. Most of us work, recreate, and perform self-maintenance tasks (e.g., shopping, banking, using transportation) with, or at least in the presence of, others. Effective performance of these occupations means that we must be able to engage others successfully to meet our needs, help us, give us information and so on. Moreover, we must reciprocate these and other actions.

### Culture

Culture is a ubiquitous feature of the person and environment/context in which the person communicates and interacts just as gravity is a ubiquitous feature of context in which movement takes place. Consequently, we cannot evaluate whether a person's communicative and interactional behavior is effective without

reference to cultural influences. According to the Model of Human Occupation (Kielhofner, 1995) culture accounts for what the person has internalized (e.g., our volition and habituation reflects the cultural contexts in which we have been socialized). Culture is also present in every context in which a person performs. Obviously, persons are better prepared to have communicational and interactional skills in cultural contexts that match the culture they have internalized. Anyone who has had the experience of being in a new culture (whether that culture is encountered in a faraway place or just outside one's neighborhood) recognizes how much more difficult it becomes to construct competent social behavior.

It is important to recognize that culture has local variations in features. This can be illustrated by an example from the United States where this assessment was first developed. There is not a single "culture" in the States that can serve as a framework for evaluating communication and interaction competence. Rather, there are important differences such as urban versus rural culture. In most urban settings persons engaging in the occupational behavior of shopping expect to have clerks respond with efficiency so they can go on about their business. In rural settings, customers (who often know the clerk involved) expect some cordiality and are quite prepared to have the interaction include some exchange of greetings and gossip.

However, even urban and rural distinctions do not completely account for what we mean by the local nature of culture. For example, within an urban environment such as Chicago, there are corporate, university, community, and neighborhood "cultures" in which certain behaviors and attitudes are expected.

Probably the best definition is that culture is what a group of people who routinely interact with each other come to expect from and do in reference to each other. Culture has a "taken for granted" or "that's how things are" nature. Importantly, culture is what members of a particular group take to be natural and it is the perspective from which they judge behaviors to be inappropriate, inconsiderate, offensive, socially clumsy or naive, and so on.

## **Environmental Influences on Communication and Interaction Skills**

Communicative and interactional behavior occurs in a context. According to the Model of Human Occupation, that context is the physical and social environment (Kielhofner, 1995). The physical environment includes objects and spaces with and within which persons act. The social dimension of the environment includes social groups and occupational forms. For purposes of the ACIS, our main emphasis will be on the social environment (i.e., the occupational forms and social groups within which persons communicate and interact). Objects and spaces can be

considered mainly as background elements to communication and interaction. This is not to say that how we use space and objects is irrelevant to communication and interaction skill. Indeed, some of our judgements will take into effect how persons share objects and space with others. Nonetheless what comes to the foreground in our considerations are social groups and occupational forms.

## Social Groups

Groups afford and press for occupational behavior in two ways. First, they provide for and assign occupational roles to individuals within them. Second, they create a behavioral context or social space in which those roles are acted out according to group ambience, norms, and climate. They thereby allow and prescribe the kinds of occupational behavior that members can or should perform.

To understand how groups influence occupational behavior, it is first important to recognize that "groups are real and have important influences that cannot be understood entirely in terms of the individual members" (Knowles, 1982, p. 19). These influences are the function of group dynamics that emanate from the group as a whole. Because a group has a dynamic property of its own it can be thought of as creating a **social space**, within which members act (Knowles, 1982). The social space of the group has boundaries, a climate, an identifiable structure, and other features which press and afford opportunities for occupational behavior.

## Occupational Forms

Occupational form has been defined as "the preexisting structure that elicits, guides, or structures subsequent human performance" (Nelson, 1988, p. 633). Kielhofner (1995) proposes a definition that emphasizes the social conventions by which the form is generated and does not consider the materials or the actual circumstances of a given performance part of the form. That is, the occupational form is a **way of doing** something that is generated and stored in the cultural collective. It can be transmitted to new members, it is given a name, and it is readily recognized by members of the culture as a thing some members do, e.g., preparing a meal, playing bingo, gardening, biking or mowing the lawn.

Occupational forms are rule bound in that, by cultural convention, there is a typical or correct way of doing them. Culture provides the rules of an occupational form by specifying procedures, outcomes, and standards for its performance. These rules are always a matter of convention. Generally, occupational forms done with others or in the presence of others are more rule bound.

Many occupational forms are so customary that their rules do not become evident until they are broken. One ordinarily does not think of a conversation as being a rule-bound occupational form. Yet, we all recognize when persons break the

taken-for-granted conventions underlying how to engage in a conversation. Depending on the culture and who the participants are, these conventions may include making eye contact, taking turns speaking, sticking to appropriate subject matter, and so on. Not following these rules can unnerve others and disrupt a conversation. Most games have strict rules that must be followed by players. The person who refuses to play by the rules spoils the sport. Thus, even seemingly simple and common occupational forms have social rules to which one is expected to adhere.

Occupational forms may also vary in their customary degree of seriousness or playfulness. In this regard, they press for the kind of attitude a person should have when doing them. How seriously an occupational form is to be taken may reflect the context in which it is performed as well as the consequences that are contingent upon successful performance. If an occupational form belongs to work, it is likely to be more serious; if it is done for leisure then it may be playful. Each occupational form carried out with or in the presence of others therefore has certain characteristics that influence social behavior. There are certain expectations as to what takes place and the type of social interaction required. When preparing a meal with others certain actions and communications are needed, e.g., need to decide what to prepare, who will do what tasks and the sharing of tools/information.

## **Considering Culture, Social Groups and Occupational Forms When Using the ACIS**

When the ACIS is used to observe persons, both the occupational form(s) being undertaken and the social group(s) to which the person being evaluated belongs must be taken into consideration. Also, the observer must be aware of cultural features that are present in the occupational form and social group. These contextual elements matter not only as criteria to determine what is appropriate or competent communication or interaction, but also as parts of the matrix of conditions in which competent communication and interaction behavior are assembled.

## **Subsystems Influences on Communication and Interaction Skills**

Underlying occupational behavior in social contexts is the capacity to perform as influenced by volition and habituation (see Figure 1).

## Volition

Volition influences what occupations and social groups we will enter and perform in. It also influences what we expect, how we experience behavior and how we interpret what has happened. For example, if one's personal causation is such that one is worried about being able to competently interact with others the anxiety may have a detrimental effect on one's ability to communicate and interact. If one's values contradict the behavior a social partner is exhibiting, one may feel tension or repulsion in the situation and this feeling may influence performance. Conversely, communication and interaction skill is enhanced when one is performing with positive volition -- that is, when the performance is experienced as interesting, challenging, but within one's capacity and meaningful to one's life and social milieu. For this reason, therapists should be aware of volitional influences in two ways. First, since volition influences performance therapists should select settings for observation in which persons **want\_to perform** and/or **need to perform** to realize their occupational choices. This recognizes that one performs in a range of social groups, some of which are freely entered into, and others in which the person needs to perform. This means that the therapist should be aware of when a context has no relevance to a person's life and should avoid such contexts when using the ACIS. Moreover, therapists should consider how volition influences emotional state and, consequently, communication and interaction skills. In some cases, therapists will observe persons who show poor communication and interaction skills in occupation because they are anxious, upset at another's action that contradicted their volition, or not attracted to the occupation at hand. Knowing that such volitional factors (and not underlying capacity) contributed to poor



communication and interaction skill is important when interpreting the ACIS data to develop treatment goals.

## Habituation

Habits reflect the customs (or norms) of society. They allow us to construct communication and interaction behavior that works in a particular sociocultural context. Roles constitute much of the repertoire of automatic interpreting and behavior assembly that make up communication and interaction skills.

## The Habit Map

Experience in the environment generates a set of internalized rules that serve as a map giving us a way to appreciate the external world. When we intuitively know how to answer the phone at work, how to greet a customer, or how to pick teammates in an impromptu game, it is because we have an internalized map that allows us to locate ourselves in the midst of the external world. It gives us our bearings, locating us in unfolding events and allowing us to steer our behavior to what comes next.

When we are in circumstances for which we have a habit map, these experiences have the feature of recognizability or familiarity. Indeed, so long as we experience the world as familiar, habits operate smoothly and without need of attention. It is the unfamiliar (i.e., that for which we do not have an internalized map) that extricates us from our habitual way of doing things. The habit map provides us with a framework for appreciating or "reading" both the environment and unfolding events and for constructing behavior to achieve the purpose of the habit.

Persons know how to produce appropriate role behavior because of an internalized role script (Miller, 1983). This internal script is "a set of schemas that organize how persons perceive, communicate, make judgements, and act toward others" (Miller, 1983, p. 319). Role scripts allow persons to make sense of events because the script anticipates what kind of interaction or actions should occur (Mancuso and Sarbin, 1983).

In interactions, role scripts allow one to appreciate that a particular kind of social event is underway, that the event is likely to have a particular course or outcome, and that one should behave in a particular way in this event. Role scripts allow intuitive appreciation of situations and automatic assembly of behavior. More importantly, we find ourselves ordinarily performing a range of role-related interactions or behaviors without reflection, but with remarkable consistency. Since roles are negotiated in interactions, the expectations and behaviors of others combine with the role script to guide the behavior.

It is also important to remember that like habitual behavior, role behavior represents a generalized way of behaving. The actual behaviors that make up any occasion of role behavior are too dependent on circumstances to be specified in advance. Nevertheless, by virtue of our role scripts, we know **how** to behave. Moreover, role scripts require and call upon communication and interaction skills.

## Performance

Underlying all these symbolic elements is the human body. Producing communication and interaction requires us to use our bodies, in particular our respiratory and musculoskeletal systems. And of course the cognitive and perceptual processes that support communication and interaction skills make use of the nervous system and tactile, visual and auditory organs. In communicating and interacting, persons make use of their mental processes while physically producing the sounds and movements that constitute language and the presentation of self to others. The production of language to send information and the presentation of the physical self are fundamental to human relations.

Finally, according to system principles, we recognize that the human system provides some of the necessary components for assembling behavior. In actual performance, however, the unfolding task is a dynamic process, and environmental conditions interact with the human system to assemble the behavior. The human system, occupation, and the environment together create a web of relationships in which the actual behavior emerges. Discrete behavioral elements are called **skills**. Performance skills are observable elements of action that have implicit functional purposes. Skill is related to the underlying capacities in that we can call upon and use these capacities when we perform. However, skill is dynamically assembled and manifested in actual performance.



## II. THE ASSESSMENT OF COMMUNICATION AND INTERACTION SKILLS (ACIS)

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### Purpose of the ACIS

The ACIS is an observational assessment that gathers data on the skill that persons demonstrate when communicating and interacting with others in an occupation. The ACIS gathers data on skill as it is exhibited **during performance of an occupational form and/or within a social group of which the person is a part.**

This assessment is composed of behaviors or action "verbs" that represent performance skills. The skill items represent three communication and interaction domains: physicality, information exchange, and relations. Each skill is rated according to a 4-point scale ranging from competent (4) to deficit (1) performance. The therapist uses the ACIS to rate a person on each of the communication and interaction performance skills after observing the person participate in a relevant and meaningful social context.

ACIS does not directly ascertain any underlying causes for an observed lack of communication and interaction skill; it simply notes whether or not the skill is present and how this affects the ongoing social action. Thus, for example, the ACIS verb, articulates, orients the observer to ask whether the person rated produces speech that can be readily heard and understood by others with whom he or she is interacting and how this affects ongoing social action. If a problem in articulating is noted, the therapist can then go on to discover or note possible sources of this problem. It may be due to the person's accent, to a motor problem, or it may be because the person tends to mumble words when feeling depressed.

### A Taxonomy of Communication and Interaction Skills

The ACIS specifically conceptualizes communication and interaction skills as comprising three domains: physicality, information exchange, and relations. The physical, informational, and relational elements are what we must manage in the course of being and acting with others while engaging in occupations. Each is discussed below.

## **Physical Domain**

We are physical beings. The body is that through which we present ourselves to others. Indeed, the body is the only aspect of self that is directly visible to others and it is through the body that we manage all interaction with others even if undirected such as talking on the phone or writing a letter. The body is always the instrument of communication and interaction.

In the course of acting with other physical beings we may touch them, approach, and leave them. We may make various indications to them (intended or unintended) through our physical selves. Whether or not we face them, look at them, or stand near them, and how we arrange our physical selves and make physical moves, indications and expressions have important effects on how others understand us and know what we mean or intend. These physical behaviors can also affect how well we are able to work or play together. Such behaviors determine our success in our reciprocal roles and our success in accomplishing an occupational task together. In short, we actively use our physical selves in relation to others. How we use our physical selves to communicate and interact during the performance of occupational forms can greatly affect our success or failure when interacting with others.

## **Informational Domain**

We are symbolic beings who exchange information through the use of encoded language. To give and receive information necessary to accomplish occupational forms we must produce sounds that can be heard (or signs that can be seen, recognized, and interpreted). We must express coherent ideas and thoughts, we must be able to connect what we say with what others are saying and doing, and we must be able to acquire and give information relevant to the occupations we are performing. Thus, competent exchange of information is a skill domain that is important to occupational behavior.

## **Relational Domain**

We are affective and social beings who can feel a bond of connection to our fellows (or alienation from them) and who readily react with emotion to how we think others perceive us, treat us, and care about us. We exist in a culture through which we come to expect certain behaviors of others and to find other behaviors offensive or unacceptable. Moreover, the medium of culture in which all communicative and interactional behavior is suspended is based on meaning. The emotional and affective tone intentionally or unintentionally signified by our actions and the emotional response we have to others is the ever-present foundation upon which social action is constructed.

Consequently, to be able to carry out occupations that involve others effectively we must be able to engage in behaviors that facilitate how others feel about us and the task at hand. To do this we must be cognizant of cultural meanings attached to the unfolding social action and be able to construct our action with reference to them. This includes being able to recognize and comply with normative behavior, follow what is expected given our roles, and recognize and produce appropriate behavior for the occupational form being done together or in parallel. It also means being able to "read" others and interpret what they might be thinking and feeling about our actions toward them.

While most of this process of perceiving meaning in others is invisible to the observer, we can judge a person's relative success in constructing behavior, which implies or reflects the person's comprehension of the social setting. When we speak of behavior that is considerate, mannerly, respectful, supportive, concerned, or cooperative, we are referring to observable features of behavior that are informed and driven by the person's ability to see and react to the meaning inherent in others' behavior.

## **Outcomes**

The ACIS is built on the assumption that communication and interaction skills in occupation have two important outcomes. The first outcome is the accomplishment of the goal or purpose of the occupation. So, for example, if people are cooking a common meal, working together on a carpentry project, trying to develop consensus on how to solve a problem, planning an upcoming event, or playing a game together, it is important that they complete the meal or project, solve the problem, achieve a plan, and have a good time, respectively. Through a variety of communicative and interactional behaviors persons can work together toward those ends. The degree to which a person contributes to achieving those ends can be a measure of his or her skill.

A second dimension of communication and interaction skills present in all occupations in which persons work and play together is the social or interpersonal impact of the behavior. That is, while we are achieving (and, to a large extent, in order to achieve them) the ends, goals or purposes of an occupation, we should also try to have respect for others, be able to assert our desires, and be able to maintain a climate for good relations (e.g., honesty, fairness, kindness and courtesy). Human interaction is normally fraught with difficulty. Misunderstanding, hurt feelings, etc., are frequently present in human relations not only because people are imperfect communicators but also because communication and interaction require people to come together into a complex interface of actions and messages. Therefore, the social impact of communication interaction behavior on others must also be

considered in an evaluation. If a person is so task oriented that he or she offends others, if a person is overly critical of others' contributions to a task in the name of quality outcomes, he or she may contribute to the goal of the occupation but create poor social relations in getting there. More commonly, since many occupations require collaborative efforts, behavior that offends or turns off others will ultimately detract from the occupational outcome. If this is not true in the short run it will likely be so in the long run. For example, the clerk whose job is to sell items may get more items checked out by being abrupt and short with customers, but in the long run he or she will not sell more goods as customers will choose to go elsewhere where they are treated more cordially. So, social outcome is inextricably interrelated with occupational outcome and must always be considered along with it when evaluating communication and interaction skills.

### **When and with Whom to Use the ACIS**

There are many reasons why occupational therapists may wish to evaluate communication and interaction skills. The most obvious is that some persons have particular difficulty in this area. The ACIS is intended to be used to measure the consequences of disease/illness on communication and interaction abilities, therefore, the assessment is not diagnostically bound. Individuals with psychosocial dysfunction (e.g., persons with psychiatric diagnoses and persons with mental retardation) frequently have difficulty interacting and communicating with others. Additionally, persons who have impairments secondary to brain injury, stroke, cerebral palsy, dementia, and other factors may also have problems in this area. Finally, occupational therapists may wish to evaluate communication interaction skills in persons with physical disabilities because these clients become more reliant on these skills. For example, persons with spinal cord injury who need a personal care attendant, or who must direct others to carry out personal care and other activities that they cannot do by themselves, are dependent on their communicative and interactional skills for effective participation in meaningful occupations. The tool is currently only used to evaluate adults.

### III. ADMINISTRATION

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#### Suggested Activities

Since communication and interaction skills may differ substantially with setting and role, it is important to consider when and in what circumstances to conduct observation. The observation situations are described below.

1. Open: Client is in an unstructured situation.
2. Parallel Task: Client works on an individual task in the presence of others in the same workspace.
3. Cooperative Group: All group members work together to accomplish a common goal.
4. One on One: Client engages in one on one interaction, e.g., therapist/client, client/client, or client/family member.
  - A. Natural Setting: The communication and interaction happens in the usual environment of the client.
  - B. Simulated Life Role Situation: The therapist attempts to simulate communication and interaction situations that reflect the client's life roles.
  - C. Unrelated To Life Roles: Communication and interaction situations occur that don't directly link to life roles of the client.

The following table gives some examples:

**Table 1**  
**Observation Situations**

	a) Natural setting or goal setting	Simulated life role situation	Unrelated to life role
<b>1. Open</b>	<ul style="list-style-type: none"> <li>• Attending coffee break at work*</li> <li>• Having a party in usual place of residence</li> </ul>	<ul style="list-style-type: none"> <li>• Attending a coffee break in OT department</li> <li>• Having a party in OT department</li> </ul>	<ul style="list-style-type: none"> <li>• Being in a day room or recreation room if these environments are only a temporary part of life</li> </ul>
<b>2. Parallel Task</b>	<ul style="list-style-type: none"> <li>• Eating a meal with family in usual setting</li> </ul>	<ul style="list-style-type: none"> <li>• If you are an office worker attending an OT department, typing in the same work space as someone collating papers</li> </ul>	<ul style="list-style-type: none"> <li>• Working on individual clay pots side by side in same work area</li> </ul>
<b>3. Cooperative Group</b>	<ul style="list-style-type: none"> <li>• Washing a car with friends</li> <li>• Serving on a work crew</li> </ul>	<ul style="list-style-type: none"> <li>• Cooking group when it is usual to cook with others</li> <li>• Stress management group discussing individual role difficulties</li> </ul>	<ul style="list-style-type: none"> <li>• Attending a craft group**</li> <li>• Interacting in an adult game</li> </ul>
<b>4. One-on-One</b>	<ul style="list-style-type: none"> <li>• Talking with roommate or coworker</li> </ul>	<ul style="list-style-type: none"> <li>• Talking with other clients or therapist</li> </ul>	<ul style="list-style-type: none"> <li>• Engaging in general one on one discussion re: craft project</li> </ul>

\* A coffee break at work would be described as an open/natural setting (A1).

- \*\* A craft group, where all clients are working to a common goal, would be described as a cooperative group/unrelated to life role (C3).

## Choosing Activities

Volition is a vital component to the ACIS. The quality of the performance is enhanced if the client chooses and is motivated to be in the communication and interaction situation. Therefore, once the examiner has identified that a client is in need of assessment, the examiner should interview the client. It is important to ascertain which activities are going to be appropriate and meaningful. Ordinarily activities should be chosen that are motivating to the individual, however, there are some interactions that may be requirements of the individual's life roles that may not be highly motivating, e.g., the client may feel anxious in those situations. The ACIS can still be used in those situations. It is important the client understand the purpose of the assessment. Communication and interaction **participation** should be reinforced as an expectation.

## Time Constraints

The total administration time varies from 20-60 minutes. Observation time ranges from 15-45 minutes. Rating time ranges from 5-20 minutes depending on experience using the ACIS.

## Examiner/Client Interaction During Observation

The therapist can be a session leader/participant or just an observer. He/she should only intervene, however, if there has been an unacceptable delay or breakdown in social action. The therapist needs to be aware which skill deficit he/she is supporting and score the client accordingly.

## Terminating the Observation

The observation can be terminated by the client or by the therapist. If it is unclear if the client has finished the task set for the group or dyadic interaction the therapist should confirm that this is the case. When the client is being observed in a milieu setting the therapist may start and stop the observation when enough information has been gathered to make the ratings.

## The Rating Process

Rating communication and interaction skills, while taking into consideration the occupational form, the social group, and cultural influences appears to be very challenging. **The rater must ask, in effect, how did this behavior work in this situation, given all its occupational, social, and cultural parameters?** In fact, such a judgement

would be impossible to make if a therapist relied **only** on his or her professional training. No amount of theoretical explanation or training could specify in advance all that we should consider when evaluating competent communication and interaction behavior in a particular situation.

Let us consider some examples. Typically you would face your social partner during interaction. However, a teacher turns to the blackboard and **away** from the students while talking to the students about a problem on the board. A patient throws a friendly joke over his shoulder to a fellow patient while they work back to back at counters in a kitchen while preparing a meal. A wife turns away from her husband to underscore her anger while asserting that he hurt her feelings. One conversant turns away from a person who has been talking on and on to acknowledge a third person who has been trying unsuccessfully to enter the conversation. In each of the examples, the actor has oriented his or her body toward another, toward an object, or away from another with a specific communicational or interactional intent. In one case the person has oriented others to an object on which they should together focus (the blackboard). In the second case the person does not turn toward another, but achieves a humorous exchange by making a comment "aimed" at another. In the final case a person emphasizes her feelings by not doing what one would ordinarily do in conversation--i.e., face another.

These examples underscore the fact that social and interactional behavior is highly complex and can only be understood by reference to the situation in which it takes place. You literally have to "be there" to get what is going on. Another way of saying this is that one must be able to "read" or know the meaning of a situation to judge whether someone's behavior is effective.

Despite the complex and fluid nature of the occupational, social, and cultural context, most persons can readily recognize effective and ineffective communication and interaction when it occurs in a context with which they have some familiarity. When we make such everyday judgements, we rely on a natural social competence we first learned as children. Without this innate ability we, as members of society, would not be able to function in a competent social manner. Moreover, we could not even begin to understand why and how our clients are competent when they communicate and interact.

Consequently, we emphasize that **occupational therapists must rely on their own social competencies to make the ratings required in this assessment.** Observation and judgement with the ACIS require the rater to "read" the social situation. To "read" the social situation, the observer must already know the "language." That is, all occupational behavior that involves persons interacting and communicating requires the rater to make sense of what is going on by using his or her native understanding of human interaction (i.e., his or her social literacy).

As we have already established, culture affects the interpretation of communication skills. Therefore, raters must trust their own cultural instincts while employing guidelines provided in this manual. All persons who learn to use the ACIS will rely on their "cultural literacy" to "read" social situations. We can illustrate this through some issues that came up in the revision of this manual and the ACIS scale in the winter of 1995. Three of us were discussing some of the items. One person is from the United States, another is from Scotland, and a third is from Japan. When discussing the verb "modulates," which refers to inflection and volume, the Scottish member of our group pointed out that Americans tend to speak at a louder volume than Scots and the American pointed out that he had noticed how soft spoken the Scot was and sometimes had difficulty hearing her. We also noted how Americans are sometimes perceived as inconsiderate by persons in Great Britain because they seem loud and boisterous. When discussing the behavior of smiling, we noted that in Japan that persons might smile when they are ashamed and do so to show their regret or embarrassment. We noted how such behavior could lead to misinterpretation in America. We also noted that making eye contact was quite different in Asian and American cultures. In Asia one shows respect to superiors by not making direct eye contact, whereas in the U.S. such behavior might be interpreted as passiveness or shyness. Despite such differences, each of us can readily recognize what constitutes effective communication and interaction behavior in our own cultural settings (we would not readily be able to do so in the others' culture--which points out that raters should not attempt to make ratings in situations for which they do not have the "cultural literacy" to "read" the situation and the behaviors within it).

## Scoring

The examiner may take notes throughout the observation period. The actual ratings need to be completed as soon after the observation as possible. All demographic information needs to be completed. The ACIS is an observational tool, therefore, you should score what you see and not make inferences as to why there may be difficulties. The ACIS is also a criterion-referenced assessment. The rating should, therefore, be made on the presence/severity of difficulty of the skills as defined. Clients should not be scored in reference to their normative group.

The examiner should score critically. When in doubt between two scores, give the lower score. Base the score on the most deficit performance observed.

If a skill was **not required by the situation** and the skill **was not observed**, "**Not Assessed**" should be marked on the scoring sheet.

If a skill **was required** by the situation, and the **person did not produce the required skill**, it should be **scored using the rating scale**. Absence of skill may reflect skill deficit.

## ACIS Rating Scale

- 4 = Skill **supports** ongoing social action
- 3 = **Questionable** skill, however, there is no disruption in ongoing social action
- 2 = **Ineffective** skill which impacts ongoing social action
- 1 = **Deficit** skill which causes an unacceptable delay or breakdown in social action



## IV. DEVELOPMENT OF THE ACIS

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### A: Measurement and Rasch Analysis

Rasch analysis has been used to develop the ACIS in two of the three completed studies. The following is an explanation of the Rasch model as it pertains to the ACIS.

When the ACIS is used as a method to structure observations of a person's communication and interaction ability the instrument functions as an assessment (Short-DeGraff & Fisher, 1993). When the items are rated and a total score is obtained the ACIS functions as a measure. That is, the total scores are assumed to represent different amounts of communication and interaction (Short-DeGraff and Fisher, 1993). To be a true measure the ACIS must yield interval data in which each person receives a measure that represents an amount of communication and interaction ability. However, when a therapist uses the 4-point scale to rate items, the data obtained are only ordinal. **Rasch analysis converts these ordinal raw scores into interval data, allowing them to take on the properties of a true measure** (Merbitz, Morris, and Grip, 1989; Wright and Linacre, 1989).

Moreover, for the ACIS to be a valid measure, its 22 items must define a single construct of communication and interaction ability. This property is referred to as **unidimensionality**. According to the Rasch model, the construct of communication and interaction can be conceptualized as a line or linear continuum on which items should be located/calibrated (Wright and Masters, 1982). For the items to be valid indices of the construct, each item must be located or "fit" on this line. In addition to fitting the line, items should fall at different points indicating the amount of communication and interaction skill the item represents; this is referred to as the item's calibration. Items calibrated at the "harder" end of the communication and interaction continuum require the person to have greater communication and interaction ability in order to get a higher rating. Items at the "easier" end of this continuum require less skill.

Measurement derived from behavioral observations also requires that **rater bias** be taken into account. All raters reflect some subjectivity (Lunz and Stahl, 1990). The

goal of measurement is to reduce, as much as possible, the bias in how the rating is done across therapists due to their subjective differences.

Finally, therapists must be able to measure communication and interaction ability in different settings. Clients should be observed in **contexts that are meaningful and relevant** to their lives. The inherent problem, however, is that social situations may vary in the degree of challenge they pose for communication and interaction. If this is the case, then context must be carefully considered and a mechanism would be needed to adjust person measures for the varying performance difficulties of the social situations when measuring communication and interaction skills.

The many-faceted Rasch analysis computer program, FACETS (Linacre, 1988) calibrates the 22 communication and interaction skill items, each social situation, each rater, and each person on the same line (log-linear scale). This creates a measurement system that is able to adjust person measures for differences among raters due to rater bias and simultaneously for variation in the challenge of the social situation.

The many-faceted Rasch model builds a linear continuum with these properties based on the following expectations about what should happen when a group of people is assessed:

- a) a subject has a higher probability of obtaining a higher score on an easy skill item than a hard skill item,
- b) easy skill items are easier for all subjects than are hard skill items,
- c) raters award higher scores for easy skill items than hard skill items,
- d) subjects obtain higher scores in less challenging social situations than more challenging social situations,
- e) subjects with higher communication and interaction ability obtain higher scores than do less able subjects.

The detailed **fit statistics** that are computed by the FACETS computer program are examined to verify that individual facets (items, subjects, raters, and social situations) conform to the above expectations of linear measurement. If the individual facets do not fit the expectations of linear measurement, they are said to misfit.

## Internal Validity

The skill items mean square fit statistics will be used to verify the internal validity of the ACIS scale. A misfitting item shows that the responses in this item are too erratic or there is unexpected high variability/inconsistency in responses (Wright and Stone, 1979). That is, there is a lack of coherence between ratings on the item and the overall pattern of responses to items. This suggests that either the item does not

belong with the other items on the same continuum or that there are problems in item definition.

### Person Response Validity

The validity of each person's ratings can be verified by examining the pattern of each person's responses to the items. If people, regardless of their ability, perform better on easy items than on the hard items they are said to fit the measurement expectations. This allows us to know who has and has not been adequately measured by the ACIS. A person who unexpectedly fails an easy item or unexpectedly passes a hard item, and who therefore misfits, indicates that the ACIS is not a valid measure of his or her ability.

### Rater Response Validity

Rater fit statistics allow us to examine the consistency of individual raters when assigning skill item scores. Raters will misfit when (a) compared with all other raters they assign unexpectedly high scores on hard skill items or unexpectedly low scores on easy skill items, (b) assign high scores to less able persons or low scores to more able persons or (c) fail to use the range of a scale in a manner consistent with that of the other raters (Lunz and Stalh, 1993).

## B: Studies To Date

### Simon (1989)

Simon (1989) developed the first version of the ACIS and studied its interrater reliability for three occupational therapy raters using Pearson correlations. Two items had low reliability: **articulates** ( $r = +.28, +.49, \text{ and } +.04$ ) and **inquires** ( $r = -.56, +.53, \text{ and } -.53$ ). Additionally, reliability coefficients could not be computed for **contacts**. The other 16 items scored in the low to moderate range ( $r \geq +.17$  and  $\leq +.76$ ) for single item stability. Simon concluded from these findings that there was a need to further refine the instrument. She suggested that (a) definitions of the verbs might be refined and amended, (b) behavioral examples be further clarified and expanded, (c) the format of the ACIS be reorganized by grouping verbs according to domains, and (d) the scoring criteria might be reformulated to accentuate one's abilities instead of one's deficiencies.

### Salamy (1993)

Building on Simon's findings and recommendations, Salamy (1993) sought to further develop and validate the ACIS.

Based on Simon's findings and on secondary analysis of Simon's data, Salamy made the following revisions: (a) changed names of 3 items; (b) amended definitions of 13 items; (c) deleted one item; and, (d) consolidated, added, and quantified the behavioral examples for each of the final 18 items.

Salamy's study supported the conclusion that the 18 items defined a single unidimensional construct of communication and interaction. From the Rasch analysis, there was evidence to support the construct validity of the ACIS.

The scale, however, was too easy for adults with mental illness. This study identified the need to regrade the scoring criteria to make it harder to obtain a higher score.

### **Forsyth (1996)**

Extensive revisions were carried out based on Salamy's recommendations along with input from 20 international occupational therapists both working in academia and clinicians.

Fifty-two Scottish occupational therapists were trained to rate the ACIS in 2-day workshops. One hundred seventeen clients and 244 completed ACIS assessments were analyzed by FACETS, the multifaceted computer program. The results showed that 19 items worked together to form a unidimensional construct that translates into good internal validity. Construct validity was supported by the order of calibrations of the items. The average measures indicate that the ACIS has a valid rating scale. The ACIS can discriminate people into many different levels of communication and interaction ability in a logical way. The ACIS item difficulty was found to be a good match a person's ability. Consistency was found between and within raters.

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## V. ACIS DOMAINS AND VERBS

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### Physicality

- Contacts: Makes physical contact with others
- Gazes: Uses eyes to communicate and interact with others
- Gestures: Uses movements of the body to indicate, demonstrate, or add emphasis
- Maneuvers: Moves one=s body in relation to others
- Orients: Directs one=s body in relation to others and/or occupational forms
- Postures: Assumes physical positions

### Information Exchange

- Articulates: Produces clear, understandable speech
- Asserts: Directly expresses desires, refusals, and requests
- Asks: Requests factual or personal information
- Engages: Initiates interactions
- Expresses: Displays affect/attitude
- Modulates: Employs volume and inflection in speech
- Shares: Gives out factual or personal information
- Speaks: Makes oneself understood through use of words, phrases, and sentences
- Sustains: Keeps up speech for appropriate duration

### Relations

- Collaborates: Coordinates action with others toward a common end goal
- Conforms: Follows implicit and explicit social norms
- Focuses: Directs conversation and behavior to ongoing social action
- Relates: Assumes a manner of acting that tries to establish a rapport with others
- Respects: Accommodates to other people's reactions and requests

## Physicality

**Contacts.** Makes physical contact with others. Implies that the person is aware of cues from others concerning their comfort with being touched. Includes receiving/reciprocity of touch. Considers the misuse and/or lack of physical contact. (**Note:** if maneuvering close and this includes physical contact it is also scored under **maneuvers.**)

- 4 = readily and consistently contacts, which supports ongoing social action
  - uses or shows absence of touch that is appropriate to context and promotes social action (e.g., appropriately taps someone's arm for attention, hugs among peers, shakes hands when saying goodbye)
  - discriminates between who he or she touches and frequency of touch so that the contact maintains its meaning
  
- 3 = demonstrates questionable ability in contacting, however, there is no disruption in ongoing social action
  - the observer questions the appropriateness of contact
  - possibly contact is too long or too brief for context
  - the observer questions discrimination and, therefore, the meaning of touch
  
- 2 = shows ineffective ability in contacting, which impacts ongoing social action
  - difficulty with and/or delays in contacting impede ongoing social action (e.g., delaying a handshake when it would be appropriate)
  - touch may be appropriate but is too prolonged (e.g., long handshakes) OR too brief, minimal, however, doesn't cause breakdown in ongoing social interaction
  
- 1 = deficit in contacting ability causes an unacceptable delay or breakdown in social action
  - does not/refuses to use physical contact when it is appropriately sought or initiated
  - strikes out at others, demonstrates assaultive behaviors or self-abuse
  - causes another pain, attains negative reaction (e.g., squeezing someone's hand strongly)
  - uses touch that violate norms of context (e.g., hugging everyone in a room when they are strangers and the situation is not one where people ordinarily hug)

- reacts inappropriately to touch
- touch is too prolonged requiring social partner to break off the touch or ask that it be broken off

## Physicality

**Gazes.** Uses eyes to communicate and interact with others. Includes eye contact (e.g., looking away or staring). (**Note:** Turning body to gaze at someone or appropriately turning body away from someone to break gaze is also scored under the verb **orients**.)

- 4 = readily and consistently gazes, which supports ongoing social action
  - makes good eye contact by looking appropriately at other person
  - maintains appropriate eye contact with other person for duration of interaction
  
- 3 = shows questionable gazing ability, however, there is no disruption in ongoing social action
  - the observer questions appropriateness of gaze
  - shows possible inappropriate duration of gaze
  
- 2 = shows ineffective gazing ability, which impacts ongoing social action
  - makes inappropriate minimal/sporadic eye contact; may avoid other person
  - makes inappropriate intense eye contact (e.g., no blinking, staring) for a short period
  - makes eye contact but seems to look blank/vague
  - has difficulty maintaining eye contact
  
- 1 = deficit in ability gazing causes an unacceptable delay or breakdown in social action
  - stares inappropriately or makes intense eye contact (e.g., glares) such that others appear uncomfortable
  - shows no eye contact during interaction; may lower head or look away
  - shows inappropriate sporadic eye contact, which causes breakdown in social action
  - requires therapist or social partner intervention to refocus/break inappropriate gaze of client, e.g., has highly distractible gaze; looks over shoulder of social partner

## Physicality

**Gestures.** Uses movements of the body to indicate, demonstrate, or add emphasis. Refers to the use, misuse, or absence of nonverbal communication to qualify, emphasize, and/or supplement the verbal message. Includes hand motions (e.g., they can be used to indicate location or direction and they can be used to "point out" or "select" or wave or make a fist). Also can include inappropriate gestures such as obscene gestures.

- 4 = readily and consistently gestures, which supports ongoing social action
  - gestures support, enhance speech
  - amount and variety appropriate for context
- 3 = questionable ability gesturing, however, there is no disruption in ongoing social action
  - observer questions congruence with speech
  - observer questions amount for context
  - observer questions effectiveness of gestures
- 2 = ineffective gesturing ability, which impacts ongoing social action
  - gestures are incongruent with speech so as to cause a delay in social action (e.g., gestures are not connected to the message and are distracting)
  - amount (e.g., gestures appear too much) and variety inappropriate for context (e.g., inappropriate repetitive gesture)
  - absence of gesturing delays social action (e.g., leads to confusion)
  - ineffective gestures lead to listeners guessing at information, therefore causing a delay in social action
- 1 = deficit in ability gesturing causes an unacceptable delay or breakdown in social action
  - gesturing is incongruent with speech (e.g., pointing to an object while talking about something else causes an unacceptable delay in social action)
  - does not produce gestures
  - gestures are ineffective (e.g., gestures may not be fluid due to high muscle tone)
  - gestures are made as a threat to other group members' safety, or convey obscenity or insult

- absence of gesturing causes breakdown (i.e., is unable to verbally describe location of an object effectively and does not support verbal description with a needed gesture -- social partner cannot understand)
- requires therapist intervention to supplement lack of appropriate gesturing

## Physicality

**Maneuvers.** Moves one's body in relation to others. Implies awareness of coordinating movement of full body with that of others. Includes adjusting the *distance* between self and others. Implies that the person acts on cues from others about "comfort zones" while standing, walking, or dancing during interaction. (**Note:** Directing one's body toward or away from others and/or common occupational form is scored under the verb **orients**; if maneuvering close--and this includes physical contact--it is also scored under contacts).

- 4 = readily and consistently maneuvers, which supports ongoing social action
  - seats self within group by moving body with full awareness of others' "comfort zone"
  - adjusts distance between self and others appropriately
- 3 = questionable ability maneuvering, however, there is no disruption in ongoing social action
  - the observer questions appropriateness of body movement
  - possibly stands too close or too far away
- 2 = ineffective ability maneuvering, which impacts ongoing social action
  - initially seats self apart, and puts a gap/barrier between self and group/person such that interactions are more difficult, however, joins group eventually
  - positions self too close to another person or crowds someone, which impacts social action
  - needs to use a walking aid or wheelchair
  - after being initially seated in group, doesn't move when group moves
  - moves inappropriately into dyadic interactions that cause delay
- 1 = deficit in maneuvering ability causes an unacceptable delay or breakdown in social action
  - seats self apart from the group and requires therapist or social partner intervention to bring back to group
  - positions self too close or too far away from another person such that it causes breakdown in social action
  - moves inappropriately into small dyadic interactions that cause breakdown in social action

- may require therapist or social partner intervention

## Physicality

**Orients.** Directs one's body in relation to others and/or common occupational forms. Includes turning head only. (**Note:** The use of eyes to communicate is scored under the verb **gazes.**)

- 4 = readily and consistently orients, which supports ongoing social action
  - turns toward or away appropriately when speaking or when someone else is speaking (e.g., turns away briefly to show disagreement)
  - appropriately alternates orientation between speaking directly to people or to an object/event
  
- 3 = questionable ability orientating, however, there is no disruption in ongoing social action
  - observer questions whether orientation is appropriate
  - shows possible lack of smooth alterations in orientation
  
- 2 = ineffective ability orientating, which impacts ongoing social action
  - has difficulty in turning toward/away appropriately, causing delay in social action
  - shows impaired ability to change orientation from object/event to person or from person to person
  - has difficulty sustaining orientation
  
- 1 = deficit in ability orientating causes an unacceptable delay or breakdown in social action
  - does not turn toward/away appropriately
  - does not alternate orientation, leading to breakdown in social action and need for therapist or social partner intervention
  - does not sustain orientation
  - turns away and won't engage

## Physicality

**Postures.** Assumes physical positions. Refers to the use of body language (excluding facial expressions and gestures) to convey nonverbal messages. Includes the arrangement of body parts in relation to each other and the interaction (e.g., crossing arms and/or legs, leaning forward or backward, sitting formally or comfortably, and putting head in hands). Also includes the arrangement of body in or on objects such as placing one's feet on a table, curling up in a chair, putting one's head down on a desk during a lecture. Also involves whether such arrangements are appropriate to the occupational form and context. Also refers to issues of modesty such as arranging one's body to avoid exposing private body parts. (**Note:** Facial expressions are scored under the verb *expresses*; body turning away/toward person and/or occupational form is scored under verb *orients*.)

- 4 = readily and consistently postures, which supports ongoing social action
  - assumes appropriate positions for context
  - changes posture spontaneously and appropriately
  
- 3 = questionable ability posturing, however, there is no disruption in ongoing social action
  - shows possible delay in ongoing social action due to posture
  - observer questions a behavior that possibly could be interpreted as sexually suggestive
  
- 2 = ineffective posturing ability, which impacts ongoing social action
  - has difficulty in changing posture appropriately (e.g., rigid posture)
  - has difficulty in posturing appropriately to the situation, e.g., too formal (i.e., arms always crossed across one's chest) OR too informal (i.e., slouched in the chair)
  - shows limited ability to posture modestly
  
- 1 = deficit in ability posturing causes an unacceptable delay or breakdown in social action
  - does not posture appropriately to support ongoing social action (e.g., head facing downward on the table and/or arms crossed overhead)
  - position is inappropriate to the situation such that the person appears unwelcoming or avoidant, which causes an unacceptable delay or requires therapist intervention

- positions self in an unsafe way that is distracting and causes breakdown in social action
- assumes a position that is sexually suggestive and that may expose private body parts

### Information Exchange

**Articulates.** Produces clear, understandable speech free of slurring, mumbling, muttering, unfamiliar dialect/accents; unable to articulate due to mouth and other factors that impair understanding of the words being spoken. (**Note:** Stuttering is scored under the verb **sustains**; understandable content of speech is scored under verb **speaks**.)

- 4 = readily and consistently articulates, which supports ongoing social action
  - uses clear and concise pronunciation so that all words are understood
  
- 3 = questionable ability articulating, however, there is no disruption in ongoing social action
  - observer questions clarity of speech
  
- 2 = ineffective ability articulating, which impacts ongoing social action
  - slightly slurs or mumbles such that some words are not understood OR only understood with careful attention
  - words not clear (e.g., unfamiliar accent)
  
- 1 = deficit in ability articulating causes an unacceptable delay or breakdown in social action
  - mutters, slurs such that most words are not understood
  - uses word approximations (i.e., shortened sounds spoken in attempt/substitution for entire word)
  - most words are not understood, requiring therapist to intervene or social partner to clarify words
  - difficult to understand words and social partner gives up, causing a breakdown in social action
  - does not speak

### Information Exchange

**Asserts.** Directly expresses desires, refusals, and requests. Refers to actively and specifically expressing desires/needs in such a way that one makes it clear what another needs to do in order to meet one's desires or needs. Includes refusing requests of others in a positive way and making requests of others. (**Note:** Telling of personal or factual information may also scored under the verb **shares.**)

- 4 = readily and consistently asserts, which supports ongoing social action
  - actively uses a firm, direct approach with others
  - speaks with complete confidence
  - refuses requests of others in a positive way
  
- 3 = questionable ability asserting, however, there is no disruption in ongoing social action
  - observer questions approaches with others
  - possibly may speak with lack of confidence
  
- 2 = ineffective ability asserting, which impacts ongoing social action
  - seems to procrastinate, be stubborn, get in other's way
  - has difficulty making effort for self
  - speaks with some confidence but also with some doubt
  - uses indirect approach with others, which causes delay in social action
  - makes requests without being specific, which causes delay in social situation
  
- 1 = deficit in ability asserting causes an unacceptable delay or breakdown in social action
  - is inactive in getting needs met (i.e., passive) and/or submissive
  - is pushy, violates others' rights (i.e., aggressive) and/or attempts to dominate, be manipulative
  - uses indirect approach with others, which is ineffective and requires therapist or social partner intervention
  - makes requests without being specific, causing an unacceptable delay or breakdown in social action
  - does not make needs known, which may require therapist or social partner intervention to support lack of skill
  - does not refuse to do an activity but does not do the activity

### Information Exchange

**Asks.** Requests factual or personal information relevant to a common occupational form and/or social action. Includes requesting information needed to accomplish a task (e.g., the location of some object or about another's intentions or desires concerning an occupational form, i.e., "do you want to go first?", "were you planning to use a hammer?"). Refers to asking for *assistance, permission, advice, opinions, suggestions* and *explanation, or clarification* relevant to the occupational form or personal interaction. (**Note:** Asking about emotional information is scored under the verb **relates**; telling personal and factual information is scored under verb **shares**.)

- 4 = readily and consistently asks, which supports ongoing social action
  - seeks information, suggestions, explanation, and clarification by asking pertinent questions,
  - asks an appropriate number of questions given the situation (i.e., neither too many nor too few)
  
- 3 = questionable ability asking, however, there is no disruption in ongoing social action
  - the observer questions relevance of inquiry
  - asks inappropriate number of questions
  
- 2 = ineffective ability asking, which impacts ongoing social action
  - seeks information by asking questions that seem irrelevant and this interferes with ongoing social action
  - seems to inquire unnecessarily as if "just to talk"
  - delays or hesitates to inquire or has a roundabout way of inquiring
  
- 1 = deficit in ability asking causes an unacceptable delay or breakdown in social action
  - monopolizes and disrupts interaction process by asking too many questions
  - asks no questions even though opportunity or need would warrant such inquiry
  - may require therapist or social partner intervention

## Information Exchange

**Engages.** Initiates interaction. Includes behaviors at the start and during interaction.

- 4 = readily and consistently engages, which supports ongoing social action
  - gains attention appropriately to initiate interaction (e.g., waits for good moment to interrupt)
- 3 = questionable ability engaging, however, there is no disruption in ongoing social action
  - the observer questions strategies to get involved with others
- 2 = ineffective ability engaging, which impacts ongoing social action
  - has difficulty starting an interaction
  - attempts to get attention to start an interaction but does so inappropriately OR with hesitation
  - makes several attempts to get attention in an appropriate manner before being successful
- 1 = deficit in ability engaging causes an unacceptable delay or breakdown in social action
  - does not initiate and get involved, and requires therapist or social partner=s intervention
  - attempts to get attention in a manner inappropriate to the situation (e.g., by yelling) and causes breakdown in social action
  - demonstrates isolative OR withdrawn behavior
  - initiates initially then becomes quiet, needing social partner and/or therapist intervention

### Information Exchange

**Expresses.** Displays affect/attitude that is appropriate and/or contributes to the occupational form and social context. Refers to the type and range of affect/attitude expressed. Implies that a person is able to display affect (seriousness, humor) that is appropriate to the social context or required by an occupational form. Includes facial expression (e.g., raising eyebrows, smiling, grimacing, frowning, sneering). Behaviors that may indicate affect are tone of voice and liveliness. Affect is also demonstrated through specific behaviors such as smiling, crying, and laughing. Also implies that the person is not so overcome with emotion that he/she is unable to show appropriate affect.

- 4 =** readily and consistently expresses, which supports ongoing social action
  - demonstrates a range of affect (i.e., a variety of emotions appropriately seen in a particular context)
  - affect is congruent with circumstance and context (e.g., appropriately shows excitement and happiness during game when winning/progressing, and similarly sadness, frustration, or disappointment when losing)
- 3 =** questionable ability expressing, however, there is no disruption in ongoing social action
  - observer questions congruence of emotion with circumstance and context
  - has possible limitation in affect/attitude
- 2 =** ineffective ability expressing, which impacts ongoing social action
  - shows blunted (e.g., less intense) affect, however, still appropriate to context
  - has limited range of affect/attitude
  - has difficulty expressing correct affect/attitude
  - affect is incongruent with speech (e.g., smiling when talking about something sad/frustrating)
  - shows abrupt affect that appears to come and go quickly
- 1 =** deficit in ability expressing causes an unacceptable delay or breakdown in social action
  - affect is inappropriate for the situation, e.g., labile (i.e., vacillating, quickly changing) OR flat (i.e., no affect) OR smiling, giggling, or being tearful without precipitant

- has outburst of emotion (e.g., hysterically laughing or sobbing) incongruent with circumstance
- does not use an appropriate range of expressions
- needs therapist or social partner intervention to either support lack of affect/attitude OR control too much inappropriate affect

### Information Exchange

**Modulates.** Employs volume and inflection in speech. Implies that the person does not speak too loudly, softly, OR with too much monotone or singsong quality.

- 4 = readily and consistently modulates, which supports ongoing social action
  - entire speech is easily heard by group members
  - volume or inflection is appropriate to the speech content
  
- 3 = questionable ability modulating, however, there is no disruption in ongoing social action
  - observer questions volume of speech
  - shows possible incongruent inflection
  
- 2 = ineffective ability modulating, which impacts ongoing social action
  - volume is such that certain words are heard with difficulty by members OR seem slightly loud for context
  - inflection seems incongruent with speech content
  
- 1 = deficit in ability modulating causes an unacceptable delay or breakdown in social action
  - whispers and is barely audible and may require therapist or social partner intervention
  - talks too loud OR yells, screams, shouts, possibly requiring therapist intervention
  - speaks in monotone OR in singsong
  - does not use spoken words to convey message

### Information Exchange

**Shares.** Gives out factual or personal information. Includes indicating the location of objects, relating circumstances (e.g., "watch out, that soup is hot," telling what is going to happen next, reading instructions to another, giving directions, pointing out another's mistake or danger). Can include sharing personal information relevant to the task such as "I know how to do that." The personal information is being shared so as to facilitate task accomplishment as opposed to engaging others emotionally. (**Note:** Telling emotional information is scored under the verb **relates** if it is to "create a bond" or under the verb **assert** if it is to get a need met.)

- 4 = readily and consistently shares, which supports ongoing social action
  - identifies needs and/or contributes information and personal experiences in a manner appropriate to the situation
  - information does not offend others
- 3 = questionable ability sharing, however, there is no disruption in ongoing social action
  - observer questions appropriateness of information contributed
  - observer questions hesitation to give out factual information
- 2 = ineffective sharing ability that impacts ongoing social action
  - delays in sharing or fails to share factual information, which impacts social action
  - shares inappropriate factual information, which impacts social action
- 1 = deficit in sharing ability causes an unacceptable delay or breakdown in social action
  - avoids sharing information when opportunity occurs (e.g., opts to "pass" on one's turn)
  - refuses to/does not share information requiring therapist or social partner intervention
  - information shared may offend others causing an unacceptable delay

### Information Exchange

**Speaks.** Makes oneself understood through use of words, phrases, and sentences. Refers to the understandable *content* of language. Also refers to the active use of language to make one's ideas, intentions, etc., understood by others. (**Note:** Slurring of speech so that it is not understandable is scored under the verb **articulates**; flow of interaction is scored under the verb **sustains**.)

- 4 = readily and consistently speaks, which supports ongoing social action
  - uses explicit word choices
  - uses sentences that follow grammatically
  - talks in complete sentences; sentence meanings are clear and easily understood
  
- 3 = questionable speaking ability, however, there is no disruption in ongoing social action
  - observer questions word choices/grammar
  
- 2 = ineffective speaking ability, which impacts ongoing social action
  - word order may be mixed so that it does not always follow grammatically and may include frequent repetitions of the same word
  - talks in complete sentences, however, the information is somewhat puzzling to listener. Listener able to guess at the intended meaning or drift.
  
- 1 = deficit in speaking ability causes an unacceptable delay or breakdown in social action
  - word choices are inappropriate with the occurrence of clanging (i.e., use of a succession of words that rhyme but do not have a comprehensible meaning except to the speaker) OR the use of neologisms (i.e., newly made up words)
  - does not talk using sentences and/or spoken parts are not understood causing an unacceptable delay or breakdown in social action
  - word order is mixed and does not follow grammatically; requires therapist/ social partner intervention to clarify
  - disorganized sentences/phrases--sentence meanings are fragmented such that only certain parts of sentences are understood; needs someone else to explain intent

### Information Exchange

**Sustains.** Keeps up speech for appropriate duration. Includes talking so as to flow with interaction/conversation. Implies unresponsiveness, abruptness, hesitations, and interruptions on the part of the person being assessed. (**Note:** Relevant language and distractibility are scored under the verb **focuses.**)

- 4 = readily and consistently converses, which supports ongoing social action
  - shows appropriately paced speech with no hesitations or abruptness
  - length of speech is appropriate for context
  - terminates conversation in an appropriate way
  - sends messages to sustain the conversation appropriately
  
- 3 = questionable ability conversing, however, there is no disruption in ongoing social action
  - observer questions turn taking of client during social action
  - observer questions a hesitation or slowness
  - shows possible inappropriate pace of speech
  - shows possible inappropriate terminations
  
- 2 = ineffective ability conversing, which impacts ongoing social action
  - stuttering or hesitation occurs causing delay in ongoing social action
  - shows pressured speech that can be easily interrupted but resumes OR shows slowing of speech
  - shows slowness to respond that causes a delay in social action
  - inappropriate one-word answer causes delay in social action
  - shows delay in turn taking and/or interrupts others inappropriately during social action
  - length of speech is too long/too brief for context
  
- 1 = deficit in conversing ability causes an unacceptable delay or breakdown in social action
  - shows stuttering/hesitations such that meaning is disjointed or lost and may require therapist to relay meaning
  - pressured speech needs to be forcibly interrupted by others
  - inappropriate one-word answer or short answer causes breakdown in social action
  - is unresponsive to ongoing social action and requires therapist or social partner intervention
  - does not allow turn taking during social action

- does not speak (i.e., mute) OR speaks nonstop
- does not send messages to appropriately sustain conversation when needed

## Relations

**Collaborates.** Coordinates one's social action with others toward a common end. Implies how to use one's social behavior along with that of others to accomplish an end as well as knowing when to contribute one's behavior to the ongoing action of the group. Implies knowing when to *pitch in with a conversation* and how to "do one's part" in the interaction. Includes using and sharing common objects, materials, and tools. (**Note:** Coordinating one's body movement with another is scored under the verb **maneuvers**.)

- 4 = readily and consistently collaborates, which supports ongoing social action
  - fully coordinates with others, follows directions, shares materials and tools
  - is interdependent, discusses and works with others as appropriate to complete task
  - appropriately helps others
- 3 = questionable ability collaborating, however, there is no disruption in ongoing social action
  - observer questions whether the amount of interdependence seems to be too much (i.e., too independent) or too little (i.e., too dependent)
  - shows possible unhelpfulness
- 2 = ineffective ability collaborating, which impacts ongoing social action
  - has difficulty knowing when to pitch in with a conversation and/or share materials and tools
  - amount of interdependence results in delay of social action (e.g., overly independent, doesn't contribute enough, OR is too dependent)
  - is too helpful, causes interference
  - has difficulty using social behavior along with that of others to accomplish an end
- 1 = deficit in ability collaborating causes an unacceptable delay or breakdown in social action
  - fails to pitch in with conversation and/or fails to share materials and tools without prompting
  - amount of interdependence results in task breakdown since person is extremely independent, doesn't contribute anything, or adamantly resists and rejects help OR is so dependent that requires complete assistance)

- requires assistance, encouragement, reassurance, and/or supervision to pitch in
- is so inappropriately helpful that causes breakdown in ongoing social action
- does not use social behavior along with that of others to accomplish an end

**Relations**

**Conforms.** Follows implicit and explicit social norms. It implies awareness and compliance with general social norms, e.g., avoiding offensive behavior, poor manners, or obvious disrespect. (**Note:** Turn taking is scored under the verb **sustains.**)

- 4 = readily and consistently conforms, which supports ongoing social action
  - displays nonoffensive behavior
- 3 = questionable conforming ability, however, there is no disruption in ongoing social action
  - observer questions the social appropriateness of behaviors
- 2 = ineffective conforming ability, which impacts ongoing social action
  - demonstrates inappropriate, disorderly behavior
  - uses inappropriate language (e.g., cursing, furtive name calling)
- 1 = deficit in ability conforming causes an unacceptable delay or breakdown in social action
  - inappropriate behaviors notably offend others, provoke disgust, and cause an unacceptable delay in social action
  - engages in outbursts and display of malicious behavior (e.g., sexually flaunts self, provocatively calls others by condescending or contemptuous names in a hostile manner, uses vulgar language)
  - may require therapist or social partner intervention

## Relations

**Focuses.** Directs conversation and behavior to ongoing social action and/or to the occupational form. Implies that the person is attending to both what is happening between and among others and to common occupational form. Implies an absence of *distractibility* as well as the absence of behavior that is out of touch with what is happening. Also includes the production of *relevant behavior and speech* that contributes to the social process and to common occupational form. This implies continuing a topic already introduced until clear conclusions are reached. (**Note:** Content of language is scored under the verb **speaks**; pace and flow of speech is scored under the verb **sustains**.)

- 4 = readily and consistently focuses, which supports ongoing social action
  - stays with the topic until message is completely conveyed
  - uses sentences/phrases that are logical to ongoing social action
  - uses language that is relevant to ongoing social action
  - gives necessary attention to ongoing social action
  
- 3 = questionable focusing ability, however, there is no disruption in ongoing social action
  - observer questions if client is distracted
  - observer questions if the language used is relevant for the occupational form and context
  - observer questions attention to social behavior
  
- 2 = ineffective focusing ability, which impacts ongoing social action
  - drifts from topic to topic and does not return to original idea, OR persists on one subject, ruminates
  - has difficulty maintaining logical progression of sentences on one subject
  - has difficulty using relevant language and/or behavior
  - is distracted by irrelevant events, which causes a delay, however, eventually gets back to the point/social action
  
- 1 = deficit in focusing ability causes an unacceptable delay or breakdown in social action
  - does not remain on same subject OR remains on one subject to the exclusion of all else
  - language lacks relevance for occupational form and/or context (i.e., language doesn't match ongoing social action)
  - is distracted and does not return to the point/social action without social partner or therapist intervention

- does not attend to social action, i.e., behavior is consistent with being out of touch

## Relations

**Relates.** Assumes a manner of acting that tries to establish a rapport with others. Refers to social actions that demonstrate one's awareness of others. This behavior contributes to a sense of connection between social partners. Includes acknowledging receipt of social message, indications of interest, offers of assistance, encouragement, compliments, displays of concern by asking about others' feelings, uses humor, offers opinions, ideas, or suggestions. Implies sharing of personal/emotional information that creates a bond. (**Note:** Asking questions about factual information is scored under the verb asks; telling personal/factual information is scored under the verb **shares**; telling emotional information could also be scored under the verb **asserts** if it is aimed at getting needs met; turn taking during social action is scored under the verb **sustains**.)

- 4 = readily and consistently relates, which supports ongoing social action
  - shows spontaneous, appropriate relating (e.g., offers appropriate anecdotes and jokes, compliments others or offers constructive criticism, does not complain, makes supportive statements, and shares appropriate feelings and emotions)
- 3 = questionable relating ability, however, there is no disruption in ongoing social action
  - the observer questions strategies used to maintain rapport
- 2 = ineffective relating ability, which impacts social action
  - inappropriately shares emotional information, which causes a delay in social action
  - offers vague compliments and seems disinterested
  - has difficulty sustaining rapport leading to delay in social action
  - tells a story, jokes, or communicates in poor taste and/or laughs inappropriately in response
- 1 = deficit in relating ability causes an unacceptable delay or breakdown in social action
  - does not gain rapport and may require therapist intervention (e.g., tells stories, jokes that are offensive and/or laughs obnoxiously in response, somewhat hostile; offers criticism or complains, makes resistive comments and/or demonstrates a poor alliance with others)
  - may initially develop rapport, however, is unable to sustain it
  - does not give ideas or suggestions, offer encouragement or compliment, or display concern
  - demonstrates isolative OR withdrawn behavior

- may require therapist or social partner intervention to support deficit skill

## Relations

**Respects.** Accommodates to others' reactions or requests. Implies client is aware of being ineffective and needs to change. Also implies that an individual changes his or her behavior to bring it more in line with the social expectations of others or the environment based on the feedback. Feedback may be direct such as receiving a request from someone to change one's behavior, or it may be *indirect* and *subtle* such as someone shifting uncomfortably, frowning, or otherwise disapproving/being confused, or showing discomfort with actions. Person may accommodate to others' reactions or requests by altering behavior that is not generally offensive, but which in the particular situation creates a problem (e.g., speaking up when someone indicates that he or she cannot hear because of limited hearing or background noise or slowing down one's speech in response to a puzzled look on another's face).

- 4 = readily and consistently respects, which supports ongoing social action
  - accommodates to other persons' reactions appropriately (i.e., readily modifies language when misunderstood by others, e.g., uses different words, rephrases, or elaborates when social partner appears not to understand)
  - accommodates to other person's reactions spontaneously
  
- 3 = questionable respecting ability, however, there is no disruption in ongoing social action
  - observer questions if client is aware of the need to accommodate
  - observer questions appropriateness of accommodations
  - observer questions speed of accommodations
  - shows possible lack of modification of the content of language used following confusion of social partner
  
- 2 = ineffective respecting ability, which impacts ongoing social action
  - initially client not aware of need to change, however, accommodates
  - has difficulty making appropriate accommodations
  - is slightly slow with accommodations
  - shows slowness to modify/clarify content of language following confusion of social partner
  - shows slowness to modify articulation following feedback from social partner
  
- 1 = deficit in respecting ability causes an unacceptable delay or breakdown in social action
  - is not aware of need to accommodate

- does not make appropriate accommodations
- may make appropriate accommodation, however, it is too slow and causes an unacceptable delay in social action
- may need therapist or social partner intervention to support deficit skill



## **APPENDIX A**



### **ACIS Score Sheets**





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## ACIS Score Sheet

<b>Client:</b>		<b>Examiner:</b>			
<b>Observation Situation:</b>					
<b>Age:</b>		<b>Sex:</b>		<b>Diagnosis:</b>	
<b>Adaptations:</b>			<b>Inpatient:</b>		<b>Outpatient:</b>
<b>Ethnicity:</b>	White	Black	Hispanic	Asian	Native-American

**Competent (4)**    Competent performance that supports communication/ interaction and yields good interpersonal/ group outcomes. Examiner observes no evidence of a deficit

**Questionable (3)**    Questionable performance that places at risk communication/interaction and yields uncertain interpersonal/group outcomes. Examiner questions the presence of deficit.

**Ineffective (2)**    Ineffective performance that interferes with communication/ interaction and yields undesirable interpersonal/ group outcomes. Examiner observes a mild to moderate deficit.

**Deficit (1)**    Deficit performance that impedes communication/ interaction and yields unacceptable group outcomes. Examiner observes a severe deficit (risk of damage, danger, provocation, or breakdown of interpersonal group relations).

<b>Information Exchange</b>					<b>Comments:</b>
Articulates	4	3	2	1	
Asserts	4	3	2	1	
Asks	4	3	2	1	
Engages	4	3	2	1	
Expresses	4	3	2	1	
Modulates	4	3	2	1	
Shares	4	3	2	1	
Speaks	4	3	2	1	
Sustains	4	3	2	1	

**Comments:**


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## ACIS Score Sheet

<b>Client:</b>				<b>Examiner:</b>			
<b>Observation Situation:</b>							
<b>Age:</b>		<b>Sex:</b>		<b>Diagnosis:</b>			
<b>Adaptations:</b>				<b>Inpatient:</b>		<b>Outpatient:</b>	
<b>Ethnicity:</b>	White	Black	Hispanic	Asian	Native-American		
<p><b>Competent (4)</b>    Competent performance that supports communication/ interaction and yields good interpersonal/ group outcomes. Examiner observes no evidence of a deficit</p> <p><b>Questionable (3)</b>    Questionable performance that places at risk communication/interaction and yields uncertain interpersonal/group outcomes. Examiner questions the presence of deficit.</p> <p><b>Ineffective (2)</b>    Ineffective performance that interferes with communication/ interaction and yields undesirable interpersonal/ group outcomes. Examiner observes a mild to moderate deficit.</p> <p><b>Deficit (1)</b>    Deficit performance that impedes communication/ interaction and yields unacceptable group outcomes. Examiner observes a severe deficit (risk of damage, danger, provocation, or breakdown of interpersonal group relations).</p>							
<b>Relations</b>				<b>Comments:</b>			
Collaborates	4	3	2	1			
Conforms	4	3	2	1			
Focuses	4	3	2	1			
Relates	4	3	2	1			
Respects	4	3	2	1			
<b>Comments:</b>							

