

Degree of Preference as a Determinant of Choice-Making Consistency and Happiness
Among Persons with Developmental Disabilities

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A Masters thesis submitted to the Department of Psychology
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**Degree of Preference as a Determinant of Choice-Making Consistency and Happiness
Among Persons with Developmental Disabilities**

BY

Lisa J.V. Schwartzman

**A Thesis/Practicum submitted to the Faculty of Graduate Studies of The University
of Manitoba in partial fulfillment of the requirements of the degree**

of

MASTER OF ARTS

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Abstract

Research is needed to provide a firm empirical foundation for service agencies to effectively incorporate choice-making opportunities to enhance quality of life for people with developmental disabilities. The present research is a step towards meeting that need. The purpose of this study was twofold: a) to quantify degree of preference for food items using a preference assessment; and b) to evaluate degree of preference as a determinant of choice-making consistency and happiness, when choices are made between pairs of edibles. Participants were four individuals with developmental disabilities from the St. Amant Centre. For each participant, a preference assessment was conducted containing 12 different edibles. This assessment enabled us to rank order the edibles, for each participant, in terms of their preference level. This information was used to select five pairs of items for each participant, ranging from two items that were far apart on the preference assessment, to two items that were approximately equally preferred. We hypothesized that the five pairs would represent five different degrees of preference of one item over another item for a participant. Participants were then presented with the five pairs of edibles. Each pair of items was presented using a multi-element design. Choice-making consistency was greatest during the high-low and high-moderate conditions. Surprisingly, all participants made consistent choices with items that were approximately equally preferred on the initial preference assessment. Another unexpected finding was that three of the participants showed no preference or a reversed preference during the moderate-low condition. In summary, predicted results were obtained only in respect to high-low and high-moderate degree of preference pairings. Choice-making consistency was not correlated with happiness indicators.

Degree of preference as a Determinant of Choice-Making Consistency and Happiness
Among Persons with Developmental Disabilities

Choice-making is an integral part of everyday life. However, some people with severe developmental disabilities are not able to make choices unless special conditions are created (Lancioni, O'Reilly, & Emerson, 1996). The ability to make choices can empower an individual with developmental disabilities since choice-making is an act of independence. The independence created by making choices can then add to quality of life by increasing personal control over the environment (Kearney & McKnight, 1997).

Considering that some people with severe developmental disabilities are quite capable of making choices, conditions should be created to allow them the opportunity to do so (Lancioni et al., 1996). Conventional choice-making formats generally involve verbal cues; however, people with severe developmental disabilities may not possess the verbal skills needed to make or communicate such choices. Other stimulus presentation formats such as providing pictures or having objects placed in front of the individual may be more conducive to choice making with persons with severe developmental disabilities. It is important to present choice-making opportunities in formats appropriate to the individual's ability level.

Determining the best choice-making format for specific individuals with severe developmental disabilities can be a daunting task. However, the Assessment of Basic Learning Abilities (ABLA) test, developed by Kerr, Meyerson, and Flora (1977) has been found to be effective in matching the learning abilities of clients to the difficulty of training tasks (Martin & Yu, 2000). Hence, the ABLA test results with individuals with

severe developmental disabilities may be the best option available for predicting suitable choice-making formats for such individuals.

The ABLA Test

The ABLA test consists of six hierarchical learning-to-learn tasks designed to assess a client's ability to learn one imitation task and five basic discriminations. The six tasks are: (a) Level 1, Imitation – a client demonstrates imitation ability if the teacher's behavior of placing an object into a container is imitated; (b) Level 2, Position Discrimination – when two containers are in a fixed position a client consistently places an object in the container on the left or right hand side; (c) Level 3, Visual Discrimination – two different containers are randomly presented in left-right positions and a client consistently places an object in the correct container regardless of its position; (d) Level 4, Visual Match-to-Sample Discrimination – a yellow can and red box are placed in front of a client, and when given a yellow cylinder or red cube, the client puts the object into the corresponding container; (e) Level 5, Auditory Discrimination – a yellow can and red box are placed in front of a client, and the client is required to put a neutral non-matching object in the appropriate container when the teacher says, "red box" or "yellow can;" and (f) Level 6, Auditory-Visual Combined Discrimination – a client correctly places an object into a yellow can or a red box when the position of the containers and the teacher's requests are randomly alternated (Martin & Yu, 2000).

The ABLA Test and Preference Assessments

Conyers et al. (2002) assessed whether the ABLA test level of persons with severe developmental disabilities would reliably predict the most appropriate methods of choice presentation for those individuals. A two-choice presentation method was used to

evaluate participants' abilities to choose a preferred food item when presented with pairs of edibles, pictures of the pairs of edibles and verbal cues representing the pairs of edibles. When individuals were assessed with verbal cues, the two edibles were placed in separate opaque containers. The experimenter pointed to each container in turn and said the name of the edible that was inside the container. Their results showed that the ABLA test was able to predict consistent choice performance for eight out of nine participants. That is, participants who were functioning at ABLA level 3 were able to make consistent choices when presented with objects but not with pictures or verbal cues. Participants who were functioning at level 4 of the ABLA made consistent choices when presented with objects and pictures but not with verbal cues. Participants who were functioning at level 6 of the ABLA made consistent choices with all three methods of presentation (objects, pictures, and verbal cues). These results were replicated in two experiments, first involving food items, and then with non-food items. However, the results were more consistent with food than with non-food items. Conyers et al. observed that the difference between the food and the non-food experiments could be characterized as a difference in degree of preference, or motivation, given that food may act as a stronger reinforcer than non-food items.

Motivation from a Behavioral Perspective

From a behavioural perspective, motivational variables or establishing operations (EO's) influence behavior by altering the effectiveness of reinforcers (Pear, 2001). One such motivational variable is deprivation, which refers to the time period prior to testing that the individual does not experience the reinforcer (Martin & Pear, 1999). Deprivation of a primary reinforcer increases the effectiveness of that reinforcer (Martin & Pear,

1999). Incentive motivation refers to the effectiveness of a reinforcer based on the reinforcer's physical properties (Pear, 2001). The incentive value of a reinforcer is based not only on the physical properties of the reinforcer but also on the quality of other reinforcers experienced on prior occasions (Pear, 2001). A negative incentive contrast occurs when the value of a given reinforcer decreases due to prior experience with a reinforcer with a higher incentive value (Pear, 2001). Therefore, in the study conducted by Conyers et al. (2000), the difference between food and non-food experiments can be characterized as a difference in motivation. The differences were likely due to the effects of deprivation and a negative incentive contrast.

Degree of Preference as a Motivational Variable

Schwartzman, Yu, and Martin (2000) further examined the role of motivation in choice-making performance with 6 participants. At the beginning of the study, a preference assessment was conducted containing 12 different edibles. Each edible was paired with every other edible several times, and participants were given the opportunity to choose one item from every pair. This assessment enabled the edibles to be rank ordered in terms of their preference level. Then, two pairs of items were selected, one in which there was a high degree of preference for one item over the other of the pair, and one with a moderate degree of preference. It was hypothesized that the two pairs would represent two different levels of motivation of one item over another item for a participant. The pair with the higher degree of preference included a food item chosen at least 90% of the time and an item chosen not more than 10% of the time on the preference assessment. The pair with the lower degree of preference consisted of two food items chosen about 60% and 30% of the time on the preference assessment. In the

remainder of the experiment, participants were presented with the 2 pairs of edibles in three formats. These formats included presenting the pairs of edibles, presenting pictures of the pairs of edibles, and presenting spoken cues representing the pairs of edibles. On each presentation of a pair the item chosen was monitored. A choice was defined as an individual touching or pointing to one member of the pair within 10 seconds of presentation. When the preferred item was chosen, the participant was allowed to consume it, and the non-chosen item was removed. In the picture condition, when the participants chose one of the photographs, the corresponding edible was given to him or her. Likewise, in the verbal condition, when the participant pointed to one of the opaque containers, the edible inside was given to him or her. Each pair of items was presented using an ABAC design with replications. The three phases were: object (A), picture (B), and spoken (C), with the object phase serving as the baseline condition. The two pairs of items were presented in an alternating-treatments design.

The results showed that degree of preference was found to influence consistency of choice performance in some participants, and preference stability was greater with the items with the higher degree of preference. Participants 1 and 2, who were functioning at ABLA level 3, demonstrated choice consistency when the actual pairs of edibles were used as choice options, but not when pictures of the pairs of edibles or spoken cues representing the pairs of edibles were used. The pair with the higher degree of preference showed greater preference stability for Participant 1, however, preference stability was equivalent for both motivation pairs for Participant 2. Participants 3 and 4, who were functioning at ABLA level 4, demonstrated choice consistency when the actual pairs of edibles and pictures of the pairs of edibles were used, but not when spoken cues

representing the pairs of edibles were used. Both Participants 3 and 4 showed greater preference stability among the pair with the higher degree of preference. Participants 5 and 6, who were functioning at ABLA level 6, demonstrated choice consistency in all three conditions and preference stability was equivalent among both the high and low motivation pairs.

Statement of the Problem

The purpose of the current study was to quantify degree of preference for food items using a preference assessment, and to then evaluate degree of preference as a determinant of choice-making consistency and happiness. The current study went beyond the previous study in two ways. First, several degrees of preference were evaluated for their effects on choice making consistency. Second, happiness indices were added as a dependent measure. The degree to which individuals experience happiness is considered an important indicator of their quality of life (Green & Reid, 1999). It has been demonstrated that happiness indices can be increased through presentation of selected stimuli (Green, Gardner, & Reid, 1997; Green & Reid, 1996; Ivancic, Barrett, Simonow, & Kimberly, 1997). In one study (Ivancic, Barrett, Simonow, & Kimberly, 1997) happiness indexes substantially increased when preferred stimuli such as dolls and puppets were individually presented to participants. It has been suggested that the opportunity to make choices is an important indicator of quality of life (Kearney & McKnight, 1997). However, no one has yet examined whether choice-making consistency with food items is correlated with happiness indicators with persons with severe developmental disabilities.

In this study, a preference assessment with each participant was conducted to rank order their individual preferences for 12 food items, from low to neutral to high. Five pairs of items were then selected for each participant and presented in a multi-element design. It was predicted that choice-making consistency would be correlated with the degree of preference for the food pairs and that choice-making consistency would be correlated with happiness indicators.

Method

Participants and Setting

The participants were individuals from the St. Amant Centre, a residential and community training facility for persons with developmental disabilities. Participants functioning at levels 3 and 4 of the ABLA were included because they can reliably discriminate between pairs of objects. Consent was obtained from each client (see Appendix A), parent(s)/advocate, and/or legal guardian (see Appendix B), where appropriate.

Participant 1 was a 34-year-old female diagnosed with profound developmental disabilities. Participant 2 was a 31-year-old male diagnosed with severe developmental disabilities. Participant 3 was a 45-year-old male diagnosed with severe developmental disabilities and Participant 4 was a 37-year-old male diagnosed with profound developmental disabilities. All participants had extremely limited communication ability. Participants were tested and trained in an assessment room at the St. Amant Centre. During testing and training, a participant sat across a table from the experimenter. An additional observer was present during most sessions to conduct reliability assessments.

Selection of Objects

Prior to choice-making assessments, a preference assessment was conducted with each participant using a protocol adapted from research by Green et al. (1988). The preference assessment contained 12 different edibles and consisted of 660 trials, which were presented within 20 sessions. Each edible was paired with every other edible 10 times, and participants were given the opportunity to choose one item from every pair. Edibles selected for inclusion in the preference assessment were based on: (a) recommendations from caregivers, (b) availability and ease of presentation, and (c) an attempt to include stimuli representing most and least preferred food items. This assessment enabled us to rank order the edibles in terms of their preference level. This information was used to select six food items, namely, the items chosen approximately 95%, 90%, 65%, 35%, 10%, and 5% of the time. These items will be referred to as the highest, high, moderate₁, moderate₂, low, and lowest items respectively. These items were used to form five pairs that would represent five different degrees of preference of one item over another item for a participant. The highest-lowest pair included the food item chosen 95% of the time and the item chosen 5% of the time on the preference assessment. The highest-moderate₁ pair consisted of the item chosen 95% of the time and the item chosen 65% of the time on the preference assessment. The highest-high pair consisted of the item chosen 95% of the time and the item chosen 90% of the time. The low-lowest pair consisted of the item chosen 10% of the time and the item chosen about 5% of the time. The moderate₂-lowest pair consisted of the item chosen 35% of the time and the item chosen 5% of the time. These five pairs of food items were then used for assessing choice making consistency and happiness.

Assessment of Choice-Making Consistency and Happiness

A participant's choice making consistency was assessed by the tendency to consistently choose, on repeated trials, a particular food item from a pair. A choice was defined as an individual touching or pointing to one member of a pair within 10 seconds of presentation. Happiness was defined as any facial expression or vocalization that is typically considered an indication of happiness (i.e., smiling, laughing, clapping).

A session began with the participant seated across a table from the experimenter. The participant was first prompted to sample each member of all of the pairs in order to re-familiarize him or her with the items. A session consisted of 20 trials and required approximately 25 minutes to complete. All five pairs of edibles were tested within a session, so that each pair of edibles was presented 4 times in one session. During each trial, the tester placed two edibles from one pair in front of a participant and said, "pick one." The participant then had 10 seconds to make a choice. If no choice was made within the 10 seconds, the participant was verbally prompted again to, "pick one." When an item was chosen, the participant was given praise (e.g., "thanks for picking," or "good work"). The participant was allowed to consume the chosen item and the non-chosen item was removed.

During the first session the order of presentation of the pairs was randomly determined with the requirement that no pair be presented three times in a row. That order was repeated among subsequent sessions. Each pair was presented 120 times. The right-left position of each pair of edibles was counterbalanced across trials. On every trial in a session, recording of happiness indicators began when the edibles were placed in front of the participant and continued until a choice was made.

Experimental Design

A preference assessment was initially conducted to select five pairs of food items, with each pair representing a different degree of preference. Then, using a multi-element design, each pair of edibles was presented 120 times. Finally, a second preference assessment was conducted in order to assess whether the preference of the participants had changed during the study. The second preference assessment contained the six edibles that made up the five food pairings. Each edible was paired with every other edible 10 times, and participants were given the opportunity to choose one item from every pair.

Reliability

Reliability checks regarding observations of participant choice-making and happiness were conducted for each participant throughout the study. The percentage of sessions with reliability checks ranged from 40% to 63% across participants. Reliability observations were conducted by the experimenter and an observer who independently recorded the choices made by a participant and happiness indicators that occurred. For choices, a trial was considered an agreement if the tester and the observer both recorded the same item as being chosen by a participant. Conversely, a disagreement was scored if either the experimenter or the observer recorded an item as being chosen and the other recorded that a different item was chosen. For happiness, a trial was considered an agreement if the tester and the observer both recorded the same happiness indicators as being exhibited by a participant. Conversely, a disagreement was scored if either the experimenter or the observer recorded a happiness indicator as being exhibited and the other recorded that a different or no happiness indicator was exhibited. An interobserver

agreement score was calculated by dividing the number of agreements by the number of agreements plus disagreements during that session, and multiplying by 100% (Martin & Pear, 1999). Agreement was 100% across participants for happiness indicators and ranged from 95% to 100% for choice-making . In addition, the experimenter's behavior was independently recorded by both the experimenter and an observer on each trial, according to a predefined checklist of steps (see Appendix C). A procedural reliability assessment was calculated by dividing the number of agreements on experimenter behaviors by the total number of agreements plus disagreements during that session and multiplying by 100% (Martin and Pear, 1999). Procedural reliability ranged from 95% - 100% in all observed sessions.

Results

It was hypothesized that choice-making consistency would be correlated with the degree of preference across the food pairs. Figure 1 shows the mean percentage that a preferred item was chosen during the five degrees of preference for Participants 1 and 2, who were functioning at ABLA level 3 (session by session data are presented in Appendix D). Participants 1 and 2 showed choice-making consistency that was correlated with degree of preference only for the highest degree of preference (the highest-lowest pair). Participants 1 and 2 frequently chose the most preferred item from the preference assessment regardless of what that item was paired with. More specifically, Participant 1, on average picked her most preferred item from the preference assessment 96% of the time when presented with the highest-lowest pair, 100% of the time when presented with the highest-moderate pair and 95% of the time when presented with the highest-high

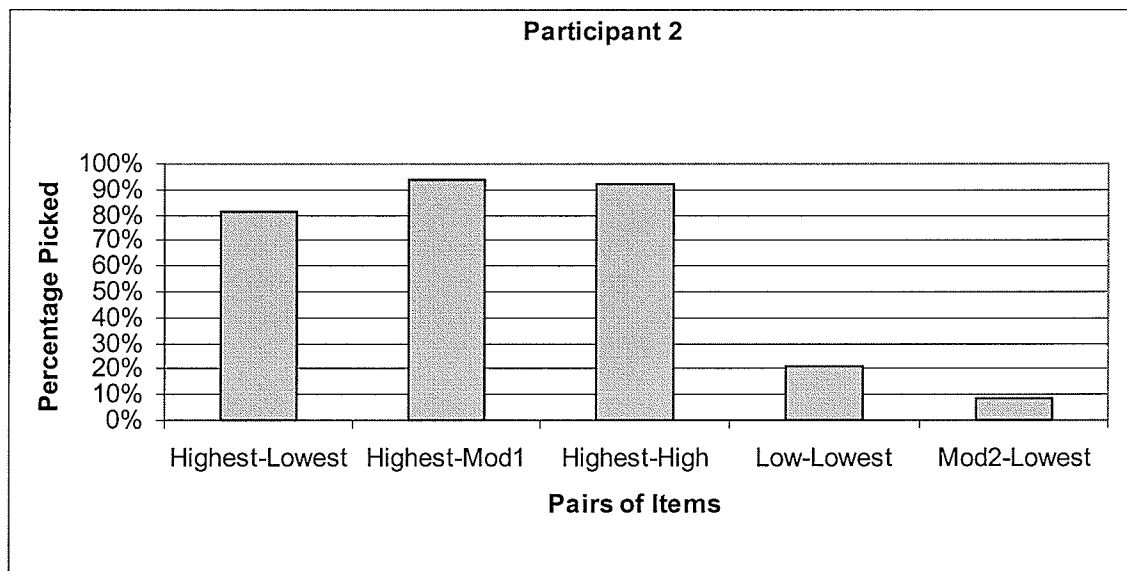
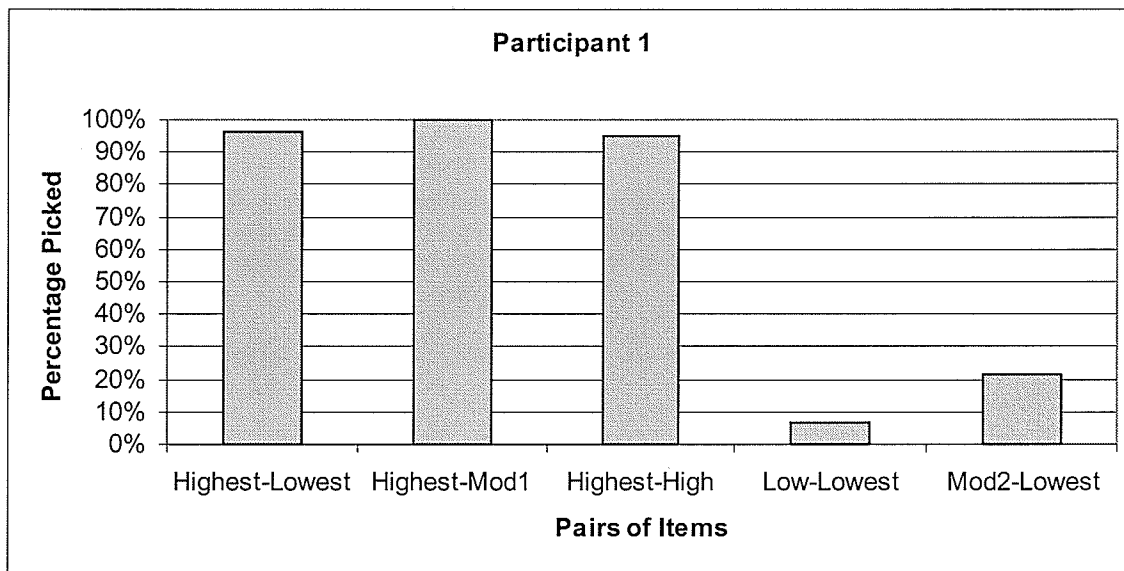


Figure 1. Mean percentage that a preferred item was chosen during the five degrees of preference.

pair. Similarly, participant 2 picked his most preferred item 82% of the time when presented with the highest-low pair, 93% of the time when presented with the highest-moderate₁ pair, and 93% of the time when presented with the highest-high pair.

When presented with pairs of items at the low end of the preference assessment, for which a low-lowest pair consisting of the item chosen 10% of the time and the item chosen 5% of the time, and a moderate₂-lowest pair consisting of the item chosen 35% of the time and the item chosen 5% of the time, Participants 1 and 2 showed surprising consistency of choice-making by typically choosing the least preferred item (as determined by the prior preference assessment) from each pair. More specifically, Participant 1 picked the low item of the low-lowest pair only 7% of the time, and the moderate₂ item of the moderate₂-lowest pair only 22% of the time. Similarly, Participant 2 picked the low item of the low-lowest pair only 21% of the time, and the moderate₂ item of the moderate₂-lowest pair only 9% of the time.

Figure 2 shows the mean percentage that a preferred item was chosen during the five degrees of preference for Participants 3 and 4, who were functioning at ABLA level 4 (session by session data are presented in Appendix D). Participant 3 showed choice-making consistency with the highest-lowest pair, which was expected. Participant 3 also showed high choice-making consistency with the low-lowest and moderate₂-lowest pairs, which was unexpected. Specifically, Participant 3 picked the most preferred item 95% of the time when presented with the highest-lowest pair, 57% of the time when presented with the highest-moderate₁ pair, 37% of the time when presented with the highest-high pair, 83% of the time when presented with the low-lowest pair, and 95% of the time when

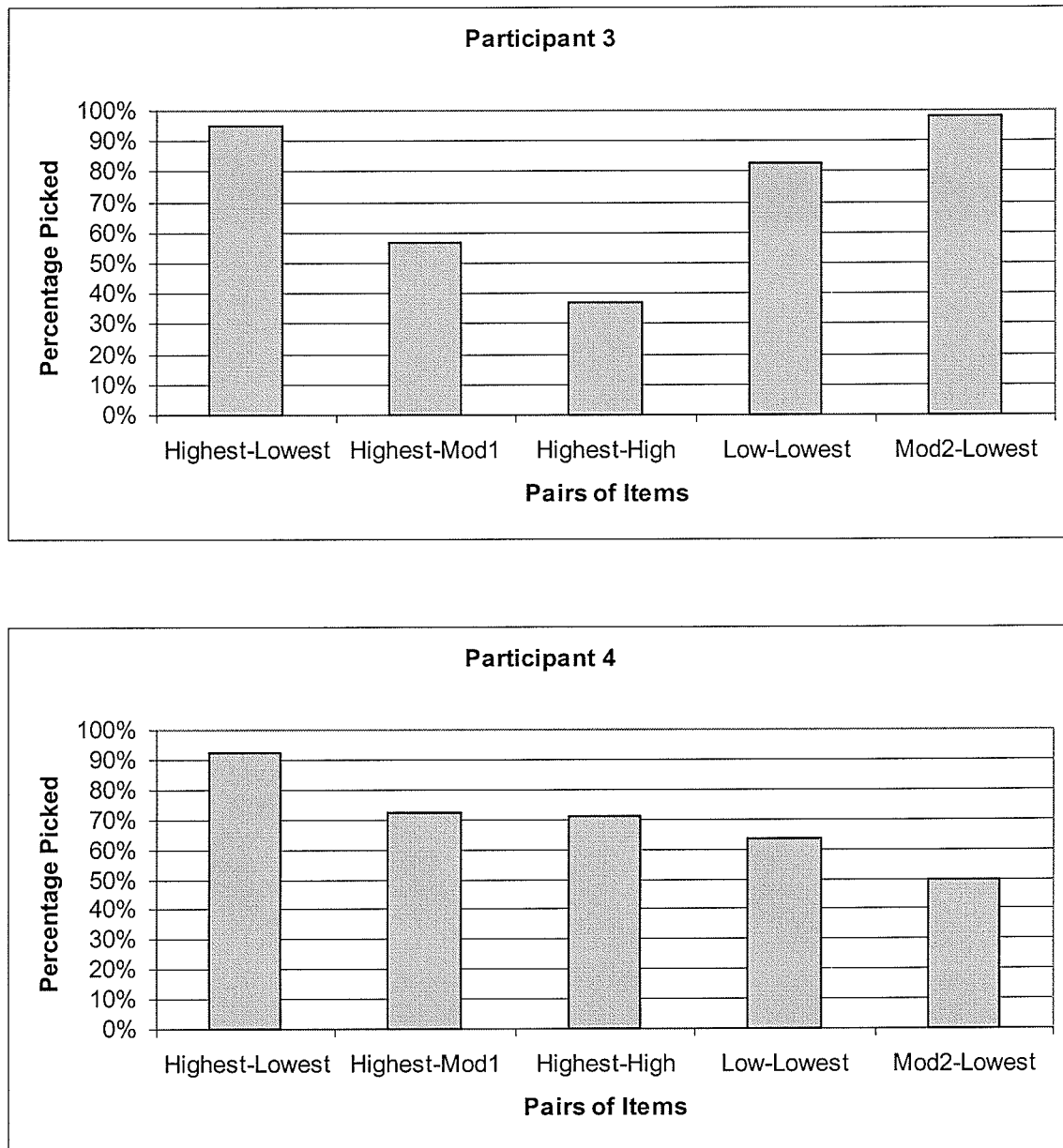


Figure 2. Mean percentage that a preferred item was chosen during the five degrees of preference.

presented with the moderate₂-lowest pair.

Participant 4 demonstrated choice-making consistency with the highest-lowest, highest-moderate₁, and highest-high pairs. Participant 4 picked his most preferred item 93% of the time when presented with the highest-lowest pair, 72% of the time when presented with the highest-moderate₁ pair, 71% of the time when presented with the highest-high pair, 63% of the time when presented with the low-lowest pair, and 50% of the time when presented with the moderate₂-lowest pair.

It was also predicted that choice-making consistency would be correlated with happiness indicators. Each choice-making session consisted of 20 trials. There were 30 sessions in total, which yielded 600 opportunities for participants to exhibit happiness indicators. Participant 3 failed to show any happiness indicators throughout the study. Three participants occasionally showed some happiness indicators such as smiling, laughing and clapping. Participant 1 exhibited happiness in 22 of 600 opportunities for an average of 3.7% of the opportunities. Participant 2 exhibited happiness in 8 of 600 opportunities for an average of 1.3% of the opportunities and Participant 4 exhibited happiness in 25 of 600 opportunities for an average of 4.2% of the opportunities. Happiness indicators were not correlated with choice-making consistency or with any specific pair of items (see Appendix E).

Discussion

The results of the present study replicated those of Schwartzman, Yu, and Martin (in press) in that choice-making consistency was greatest when there was a high degree of preference between the choices. Participants 1 and 2, functioning at level 3 of the ABLA, showed similar results in that they both displayed a high choice-making consistency

(80% and higher) when presented with the pairs of items that included the most preferred item from the preference assessment (highest-lowest, highest-moderate₁, and highest-high). However, when presented with items that were selected from the low end of the preference assessment (low-lowest and moderate₂-lowest pairs), both participants failed to pick the most preferred items. In fact, they more frequently picked their least preferred item from the pair. This failure of the preference assessment to predict choice-making consistency between items at the low end of the assessment may have been the result of numerous factors.

The first and most obvious factor is that perhaps these two participants experienced a change in their preference during the study. The second preference assessment showed that all of the participants demonstrated some changes in preference (see Table 1). These changes might explain why Participants 1 and 2 consistently picked their least preferred item from the low-lowest and moderate₂-lowest pairs.

A second reason for this tendency to choose the least preferred item of the pair may be that the preference assessment that was conducted provided a relative preference ranking, however these rankings are not necessarily absolute. The preference assessment contained 12 different edibles and each edible was paired with every other edible 10 times. Participants were given the opportunity to choose one item from every pair. This procedure ultimately established a hierarchy of food items based on their preference level. A preference assessment may establish that perhaps, a pretzel was picked 85% of the time whereas a carrot was picked 55% of the time. Based on these percentages it might then be assumed that there is a 30% difference in preference between these two edibles. However, this 30% difference is only relative. The absolute reinforcing value of

Table 1.

Preference Rankings of Edibles at First and Second Preference Assessment

	First Preference Assessment (ranking high to low preference) All 12 Items	First Preference Assessment (ranking high to low preference) The 6 Chosen Items Only	Second Preference Assessment (ranking high to low preference)
Participant 1 ABLA 3	Cheezee Dorito Broccoli Raison Marshmallow Popcorn	Cheezee Broccoli Dorito Raison Popcorn Marshmallow	Cheezee <i>Dorito</i> <i>Broccoli</i> <i>Popcorn</i> <i>Marshmallow</i> Raison
Participant 2 ABLA 3	Pretzel Cheezee Smartie FruitLoop Raison Pea	Pretzel Cheezee Smartie FruitLoop Raison Pea	Pretzel Cheezee <i>FruitLoop</i> Pea Smartie Raison
Participant 3 ABLA 4	Pretzel RiceCake Popcorn Realfruit JellyBean Carrot	Pretzel RiceCake Popcorn Realfruit JellyBean Carrot	<i>JellyBean</i> <i>Pretzel</i> <i>RiceCake</i> Realfruit <i>Popcorn</i> Carrot
Participant 4 ABLA 4	FruitLoop Cheezee Smartie CornChip Marshmallow Dorito	FruitLoop Cheezee Smartie Marshmallow CornChip Dorito	<i>Smartie</i> Cheezee <i>FruitLoop</i> <i>Dorito</i> <i>Marshmallow</i> <i>CornChip</i>

the pretzel relative to the carrot may be quite large or miniscule. If this is the case then this may account for the lack of consistency among the low and moderate degree of preference pairs. This is relevant when looking at the results for Participant 1. As mentioned previously Participant 1 picked the low item of the low-lowest pair, which consisted of marshmallow and popcorn, only 7% of the time. That is, Participant 1 consistently chose the popcorn, which was her least preferred item, based on the first preference assessment that contained all 12 edibles. However, in looking at the first preference assessment involving only the six items that made up the five food pairings, popcorn ranked higher than marshmallow.

Participants 3 and 4, who were functioning at ABLA level 4, showed greater similarity to the predicted relationship between level of preference and consistency of choice-making than did Participants 1 and 2, who were functioning at ABLA level 3. Because ABLA level 4 represents a higher and more difficult level of discrimination than ABLA level 3, perhaps Participants 3 and 4 were more able to readily discriminate different degrees of preference than were Participants 1 and 2. This suggests that future research should examine whether ABLA level plays a role in choice-making consistency when choosing between pairs of edibles with different degrees of preference. It would be interesting to see how an individual functioning at ABLA level 2 would perform in comparison to an individual functioning at ABLA level 6.

In comparison to previous studies looking at happiness during presentation of preferred activities, the participants in this study showed fewer happiness indicators. For example, Green and Reid (1999) examined happiness during leisure activities. The experimenter chose leisure activities that would provide enjoyable experiences and

presented them to the participants. Three participants averaged 28%, 28%, and 9% observed intervals with happiness. Ivancic, Barrett, Simonow, and Kimberly (1997) examined happiness indicators when participants were presented with preferred stimuli that were chosen by staff. Four participants averaged 55%, 59%, 30%, and 0% observed intervals with happiness. By comparison the participants in the current study averaged 3.7%, 1.3%, 0%, and 4.2% observed intervals with happiness. A question arises as to why the participants in the other studies, on average, showed more happiness. One reason for this difference may be that the other studies involved leisure activities whereas this study involved edibles. A second possibility is that perhaps having a choice option produces a difference in terms of happiness. The other studies did not involve choice; however, this study did. Finally, the other studies all used 10-second observation intervals. The observation intervals in the current study were up to 10 seconds. However, if participants chose rapidly then the observation session was less than 10 seconds. Hence, the other studies may have had longer observation intervals to record happiness indicators than the current study.

Cullen (1999) discussed the fact that high quality reinforcers have a much greater impact on an individual than do lower quality reinforcers. He suggested that providing choices between two items that are low in preference may add little to one's quality of life. This raises the question: should front-line staff attempt to provide choices to persons with developmental disabilities in all situations, even between low-quality reinforcers? Future research might address this question by examining choice consistency when presenting persons with developmental disabilities with a choice condition versus a no-choice condition. Phase 1 of such a study would involve presenting a participant with two

options. Option one would be a choice between a high preferred edible and a low preferred edible. Option 2 would not involve a choice, either the high preferred or low preferred edible would be randomly presented on its own. Both options would be presented to the participant and the participant would have the opportunity to choose between the choice condition or the no-choice condition. Phase 2 would replicate phase 1, but with two low quality reinforcers. Such a study could elaborate further on the importance of choice making and in turn could help to increase the quality of life for persons with developmental disabilities.

In conclusion, the findings of this research suggest that choice-making consistency is high when the choice involves a high degree of preference for one item over another. However, the same consistency is not found with neutral or moderate levels of preference. It has already been proposed that the opportunity to make choices can add to quality of life among persons with developmental disabilities (Kearney & McKnight, 1997). The fact that participants made consistent choices between the highest and lowest items on the preference assessment suggests that, to be sure that choices are meaningful, we should provide choices with a high degree of preference. Additional research is needed to judge whether or not choices are meaningful when there is a low level of preference between the items being offered.

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Appendix A

Project Description and Consent Form for Participants

PROJECT DESCRIPTION AND CONSENT FORM FOR PARTICIPANTS

Project Title: Assessment of Degree of preference as a Determinant of Choice Performance and Happiness Among Persons with Developmental Disabilities.

You are being asked to participate in a project that will study how choice-making influences your behaviors and happiness. This project will be conducted by Lisa Schwartzman (University of Manitoba) and supervised by Dr. Dickie Yu of the St. Amant Centre and the University of Manitoba, and Dr. Garry Martin of the University of Manitoba, and has been approved by the University of Manitoba Faculty of Nursing Ethics Review Committee.

What is the study about?

The aim of the study is to attempt to evaluate level of preference for food items, and to see how degree of preference affects consistency of choice making and happiness. Choices will be presented to all participants using a 2-choice format, involving edibles based on prior preference assessments. Five conditions will be created in order to quantify the subjects level of degree of preference. Happiness indicators will also be considered as a dependent variable.

How you can help and how much time will it take?

If you give consent to take part in this project, we will:

- • Assess your ability to make choices using both food items and pictures of those items.
- • Schedule assessments at your convenience. Altogether it will take about 3 hours of your time. Assessments can be completed over several meetings.

Is participation voluntary?

Yes. Participation is voluntary. Whether you do this or not will in no way affect any services you may be receiving now or in the future from the St. Amant Centre or from the University of Manitoba.

Can I stop any time?

Yes. Even after you agree to participate, you can stop any time and for any reason. It will not affect any services you may be receiving now or in the future.

Will my personal information be kept confidential?

Yes. The identities of all participants will be kept strictly confidential. All data collected during the study will be kept in a locked office and will be accessible only to the researchers and St Amant staff. Any presentations, reports, or publications as a result of this project will not contain any identifying information.

What are the risks in taking part in the study?

The assessment procedures in this study will involve verbal prompting and positive reinforcement (e.g., praise). These are commonly used procedures and there is no risk to the participants. We will stop the assessments immediately if a participant gives any indication that he/she wishes to leave or stop.

What are the benefits in taking part in the study?

There are several direct benefits for a participant. We will find out the preferences of each participant. This information will be useful for determining the best way to present choices to the participants in everyday situations. This will make choice opportunities more meaningful for the participants and will likely result in more appropriate behaviors and happiness. These changes should contribute to a better quality of life

Will participating cost anything?

No.

Will I be compensated for participating?

No. There is no financial compensation for participating.

Who should I call if I have questions or concerns about the project?

If you have any questions or concerns about the project, please call either: Lisa Schwartzman (Research Assistant), 256-4301, ext. 444, Dr. Garry Martin, 474-8589 or Dr. Dickie Yu, 356-4301, ext.399.

What should I do if I am interested?

If you are a family member or an advocate, but are not the legal guardian, we would like your support for the participant to take part in this project. Please sign the next section, *Support of Family/Advocate*, to indicate your support. The person(s) with legal authority to give consent should sign in the section, *Signature of Person Legally Authorized to Give Consent*, at the bottom of this page.

<i>Support of Family/Advocate (if family is not the legal guardian)</i>		
I support the participation of (print name of participant) _____ in this project.		
_____	_____	_____
Print Name of Parent/Advocate	Signature of Parent/Advocate	Date

<i>Signature of Person Legally Authorized to Give Consent</i>		
By signing this form, I give consent for (print name of participant) _____ to participate in the above named research project. I am aware that I may stop at any time with no impact on the services that the participant is receiving or may receive in the future. I agree to allow the project staff to:		
<ul style="list-style-type: none"> • • Gather demographics and diagnostic information about the participant from the clinical/agency records. • • Assess the participant to find out his/her preferences. • • Include the participant's results in publications, reports, and talks, so that others may learn from this project. The identity of the participant, however, will not be disclosed. 		
_____	_____	_____
Print Name of Person Legally Authorized to Give Consent	Signature of Person Legally Authorized to Give Consent	Date

Appendix B

Legal Guardian Consent Form

Legal Guardian Consent Form

Project Description And Consent Form For Legal Guardians

Project Title: Assessment of Degree of preference as a Determinant of Choice Performance and Happiness Among Persons with Developmental Disabilities.

This project will be conducted by Lisa Schwartzman (University of Manitoba) and supervised by Dr. Garry Martin (University of Manitoba) and Dr. Dickie Yu (Research Director, St. Amant Centre). This project has been approved by the University of Manitoba Faculty of Arts Ethics Review Committee.

What is the study about?

The aim of the study is to attempt to evaluate level of preference for food items, and to see how degree of preference affects consistency of choice making and happiness. Choices will be presented to all participants using a 2-choice format, involving edibles based on prior preference assessments. Five conditions will be created in order to quantify the subjects level of degree of preference. Happiness indicators will also be considered as a dependent variable.

What will the project include, and how long will it last?

If you give consent for the client to take part in this project, we will:

- Assess the client's ability to make choices using both food items and pictures of those items.
- Schedule assessments at his/her convenience. Altogether it will take about 3 hours of his/her time. Assessments can be completed over several meetings.

Is participation voluntary?

Yes. Participation is voluntary. Whether the client participates or not will in no way affect any services he/she may be receiving now or in the future from St. Amant Centre.

Can the client stop at any time?

Yes. Even after the client participates, he/she can stop any time and for any reason. It will not affect any services the client may be receiving now or in the future.

Will the client's personal information be kept confidential?

Yes. The identities of all participants will be kept strictly confidential. All data collected during the study will be kept in a locked office and will be accessible only to the researchers and St. Amant Staff. Any presentations, reports, or publications as a result of this project will not contain any identifying information.

Are there any risks to taking part in the study?

No. The assessment procedures will include verbal prompting and positive reinforcement (e.g., praise). These are common procedures, and present no risk to the client.

Are there any benefits in taking part in the study?

Yes. There are several direct benefits for a participant. We will find out several preferences of each participant. This information will be useful for determining the best way to present choices to the participants in everyday situations. This will make choice opportunities more meaningful for the participants and will likely result in more appropriate behaviors and happiness. These changes should contribute to a better quality of life.

Will participating cost anything?

No.

Is there any compensation for participating?

No. There is no financial compensation for participating.

Who should I call if I have questions or concerns about the project?

If you have any questions or concerns about the project please call Lisa Schwartzman (256-4301, ext. 444), Dr. Garry Martin (474-8589), or Dr. Dickie Yu (256-4301, ext. 399).

What should I do if I am interested?

The person(s) with legal authority to give consent should sign in the section, *Signature of Person Legally Authorized to Give Consent*, at the bottom of this page.

Signature of Person Authorized to Give Consent

By signing this form, I give consent for (print name of participant)

_____ to participate in the above named research project. I am aware that he/she may stop at any time with no impact on any services that the participant is receiving or may receive in the future. I agree to allow the project staff to:

- • Gather demographics and diagnostic information about the participant from the clinical/agency records.
- • Do assessments with participant.
- • Include the participant's results in publications, reports, and talks, so that others may learn from this project. Identity, however, will not be disclosed.

Print Name of Person
Legally Authorized to
Give Consent

Signature of Person Legally
Authorized to Give Consent

Date

Appendix C

Procedural Reliability: Reinforcement Preference Assessment Form

Appendix D

Session by Session Data for Participants

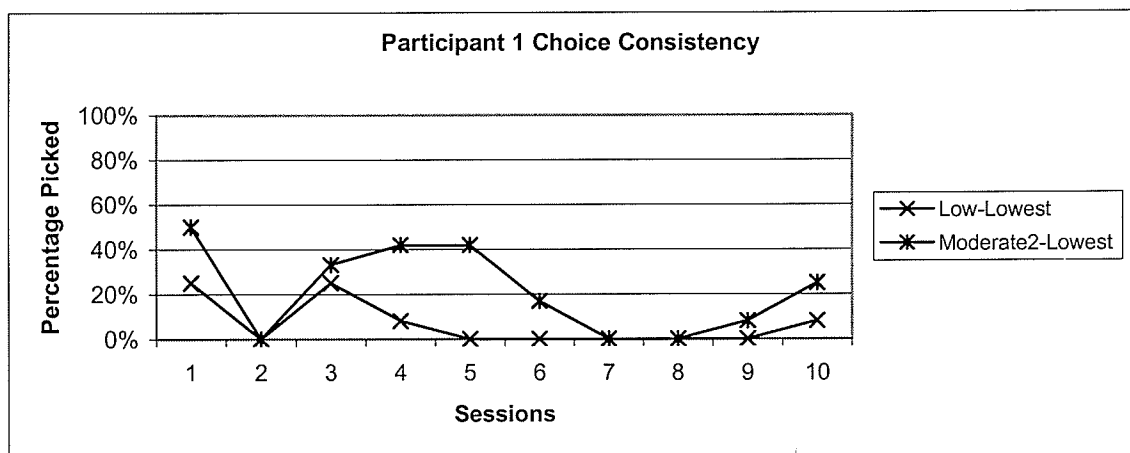
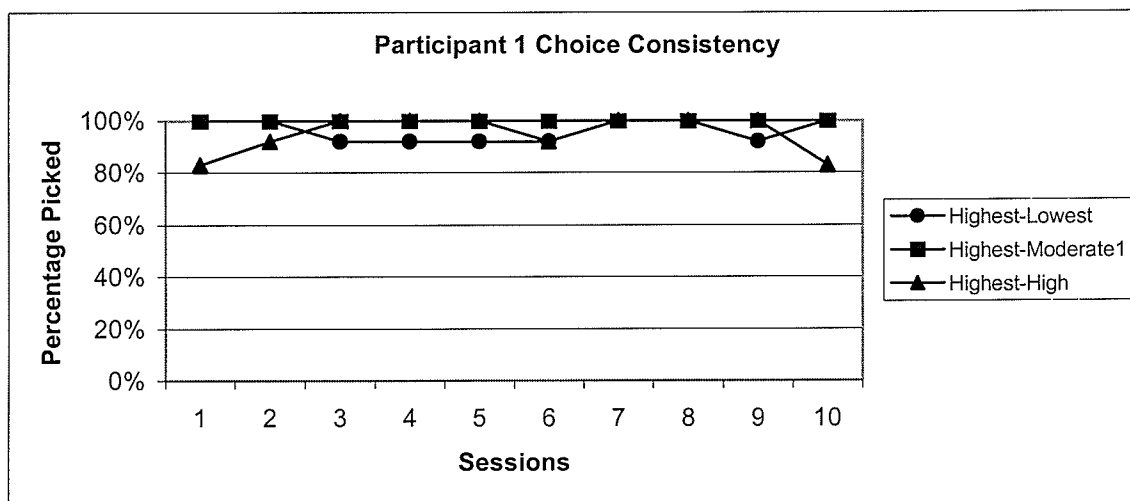
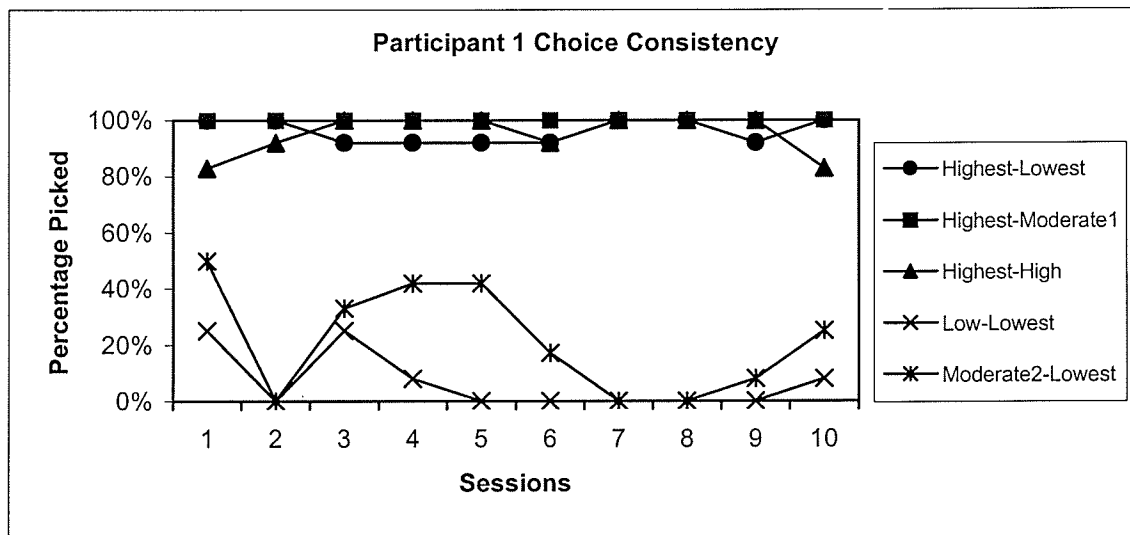


Figure 3. Percentage of trials a preferred item was chosen during the five degree of preference conditions.

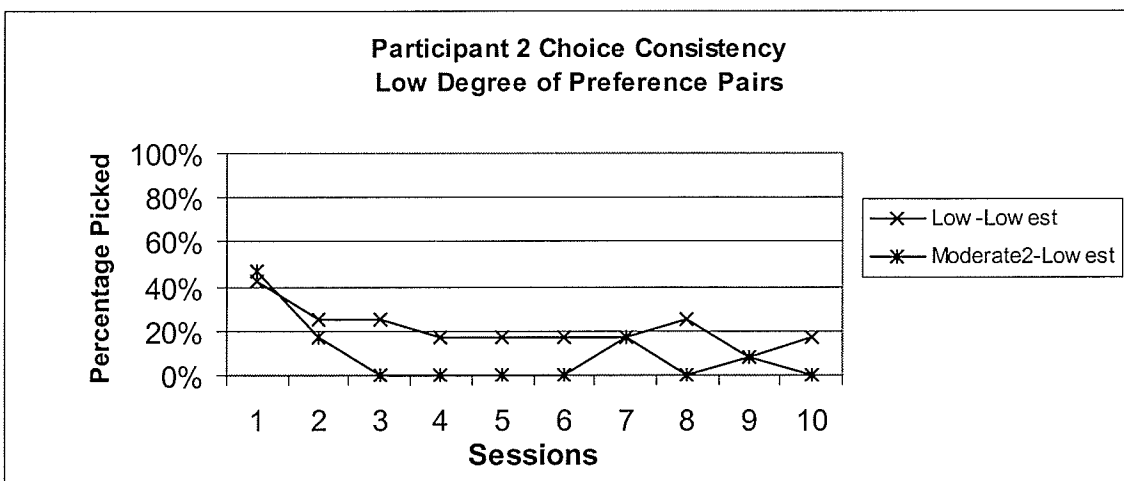
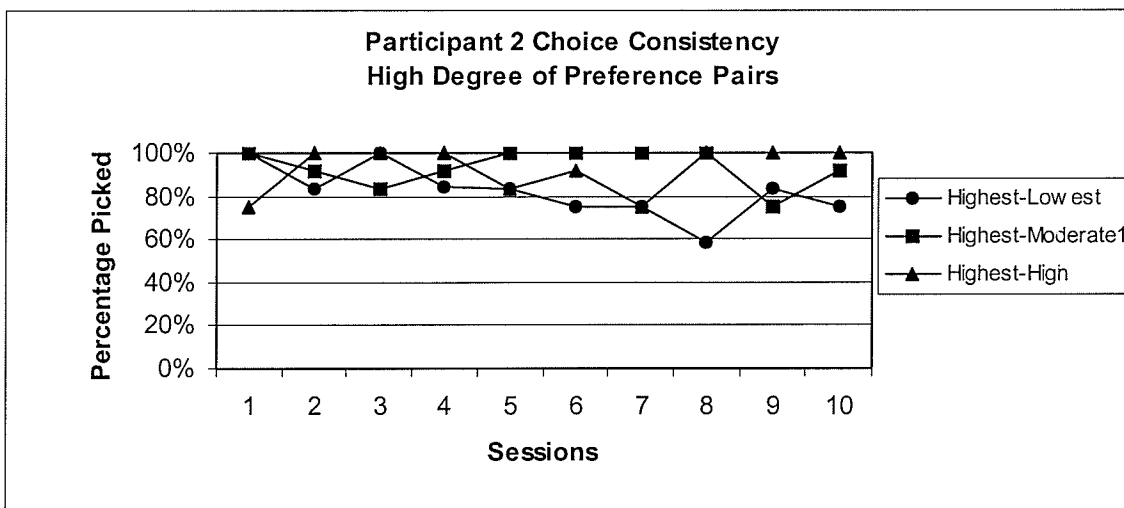
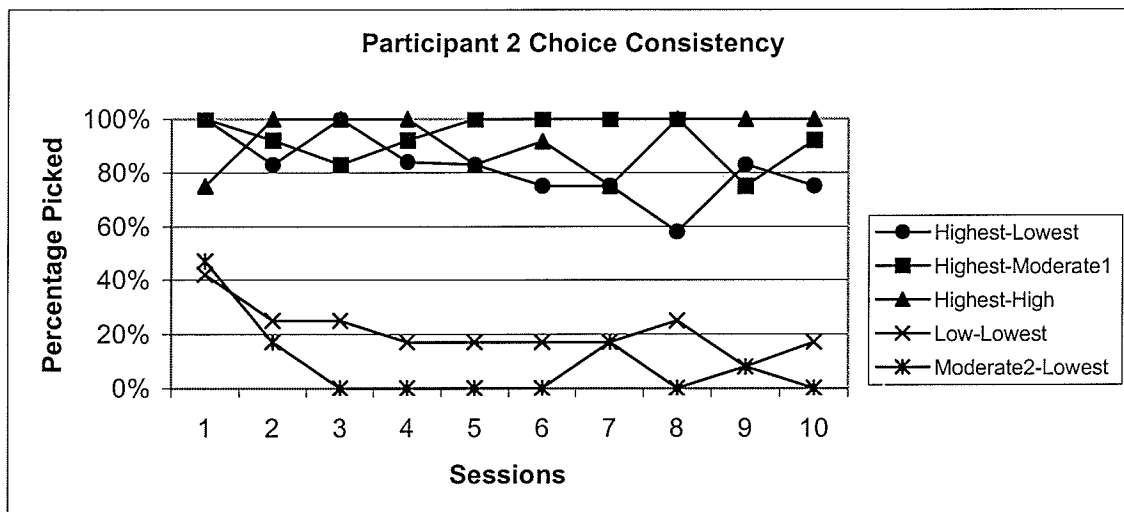


Figure 4. Percentage of trials a preferred item was chosen during the five degree of preference conditions.

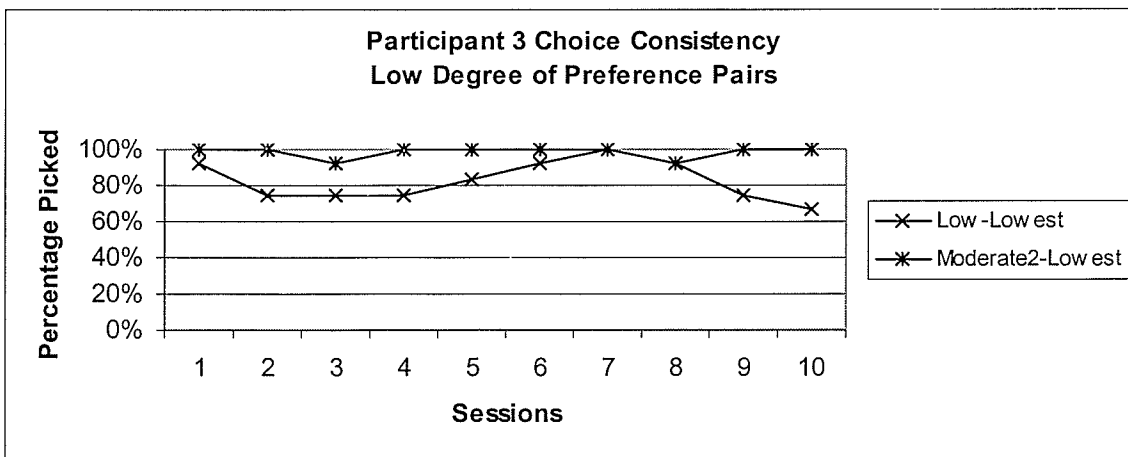
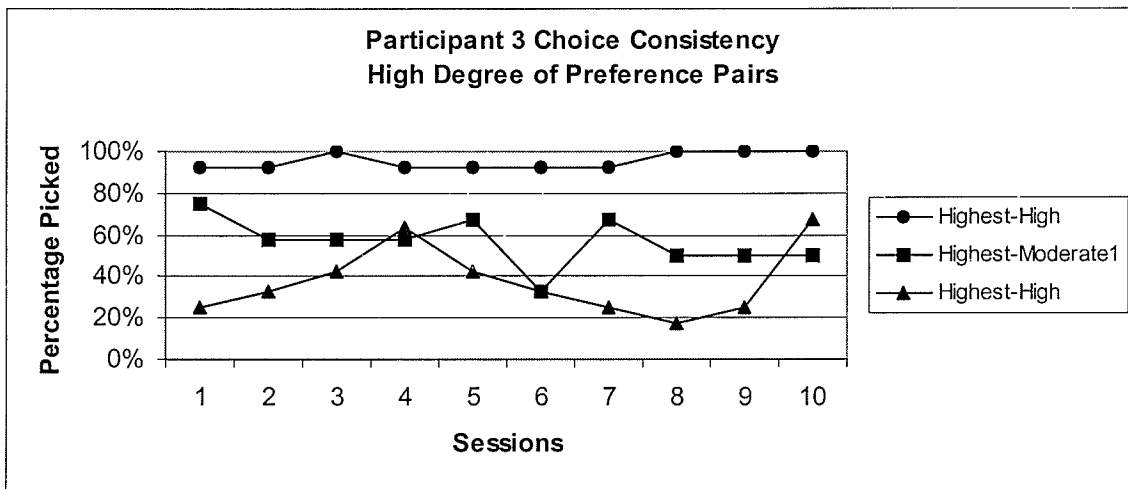
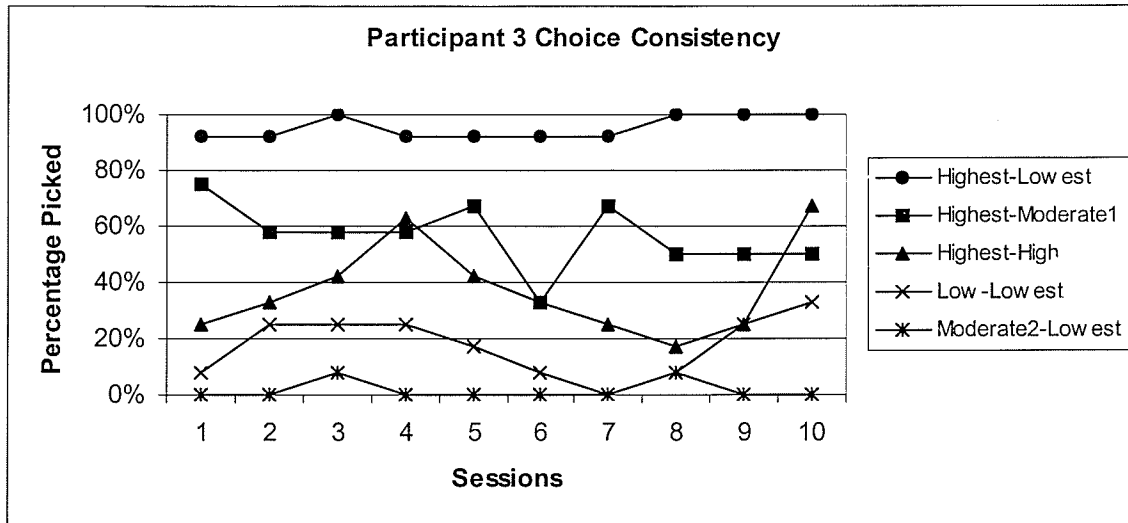


Figure 5. Percentage of trials a preferred item was chosen during the five degree of preference conditions.

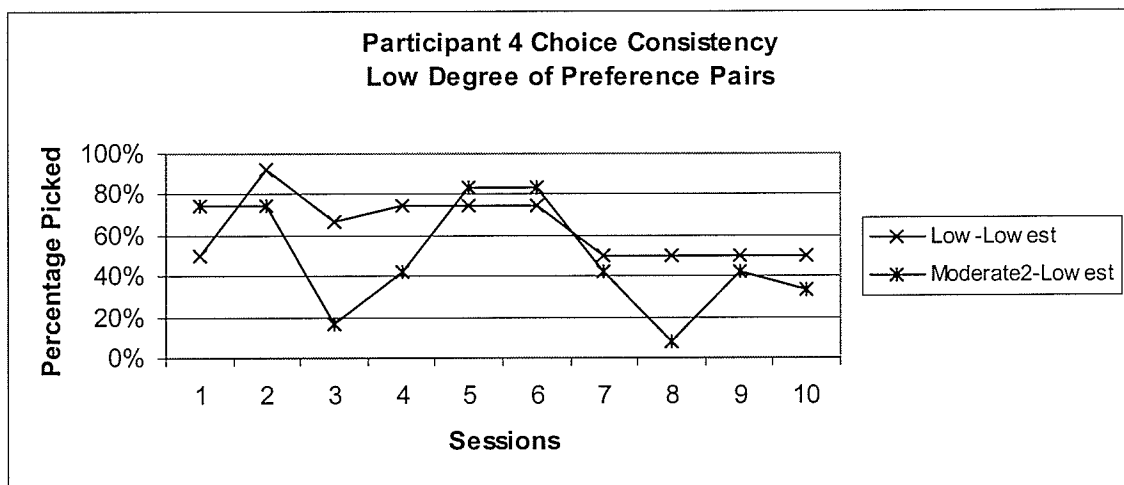
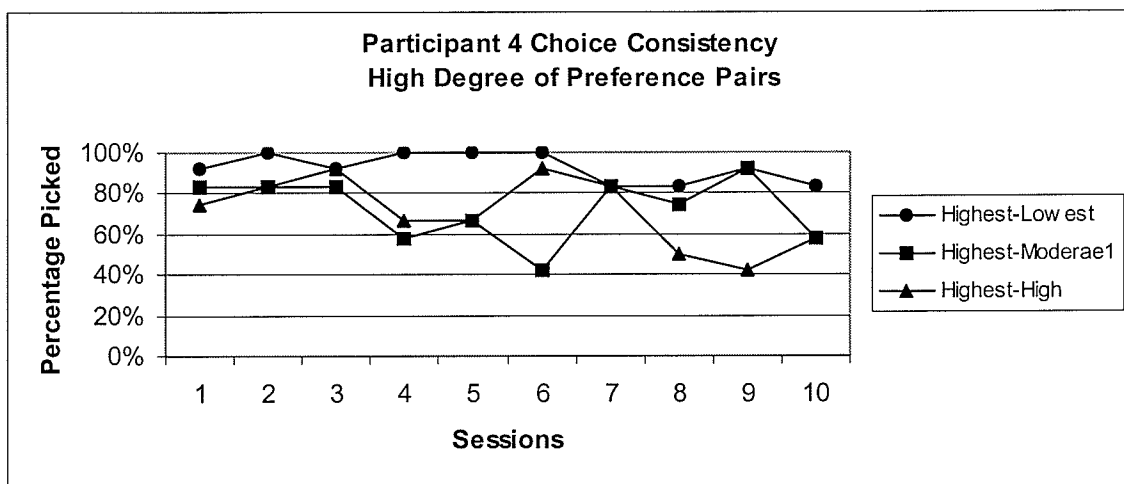
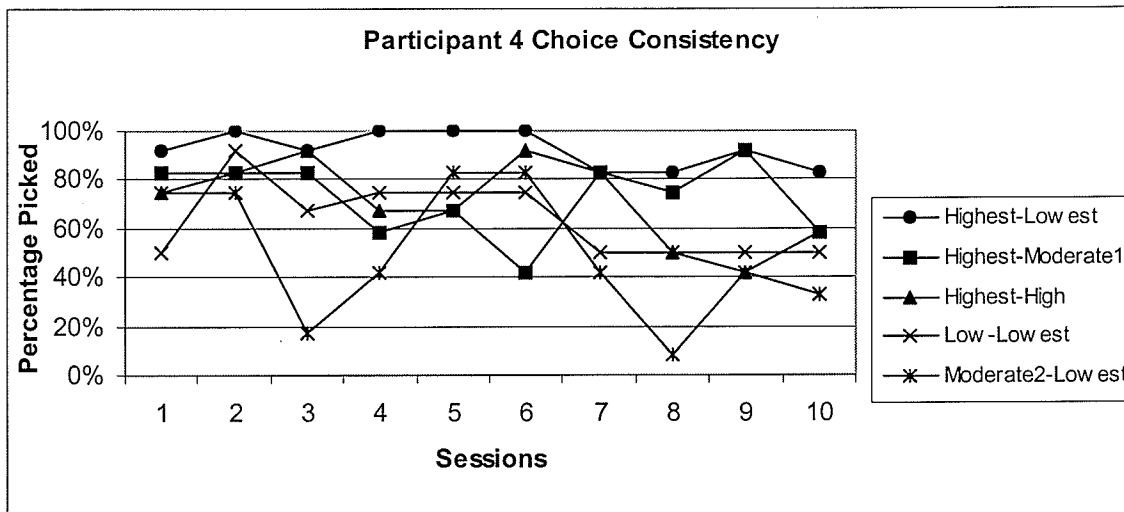
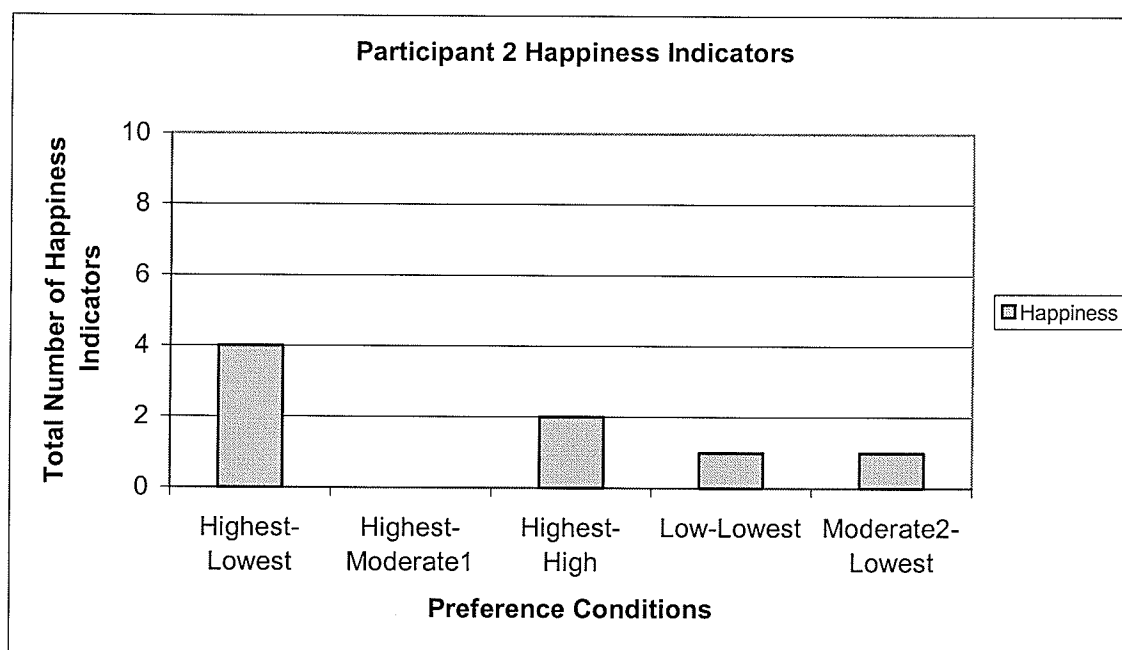
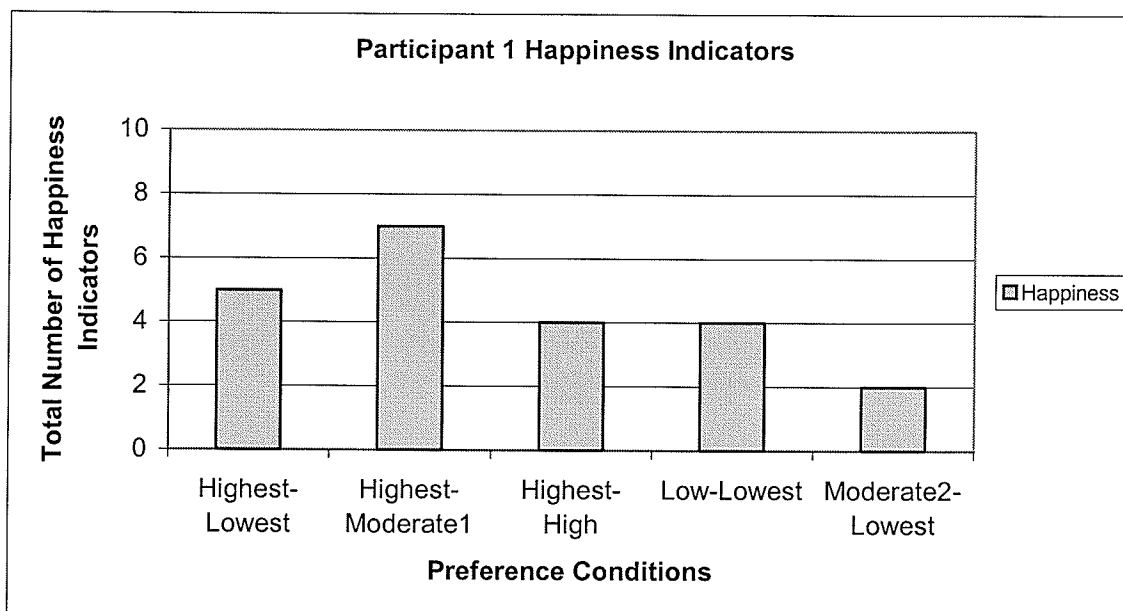


Figure 5. Percentage of trials a preferred item was chosen during the five degree of preference conditions.

Appendix E

Participant Happiness Indicator Data



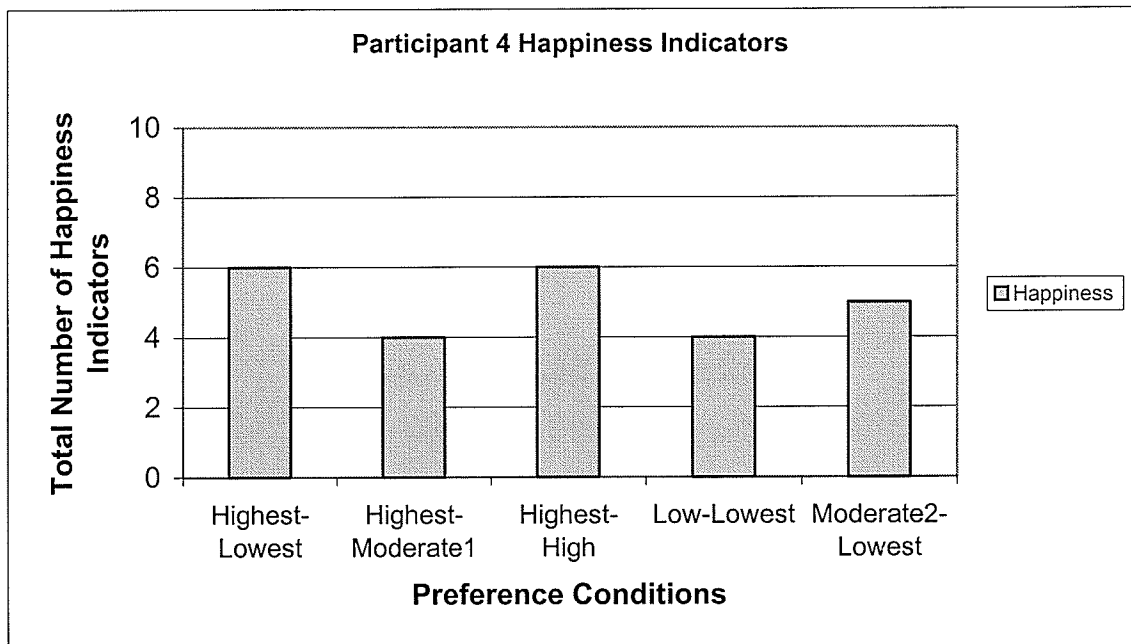
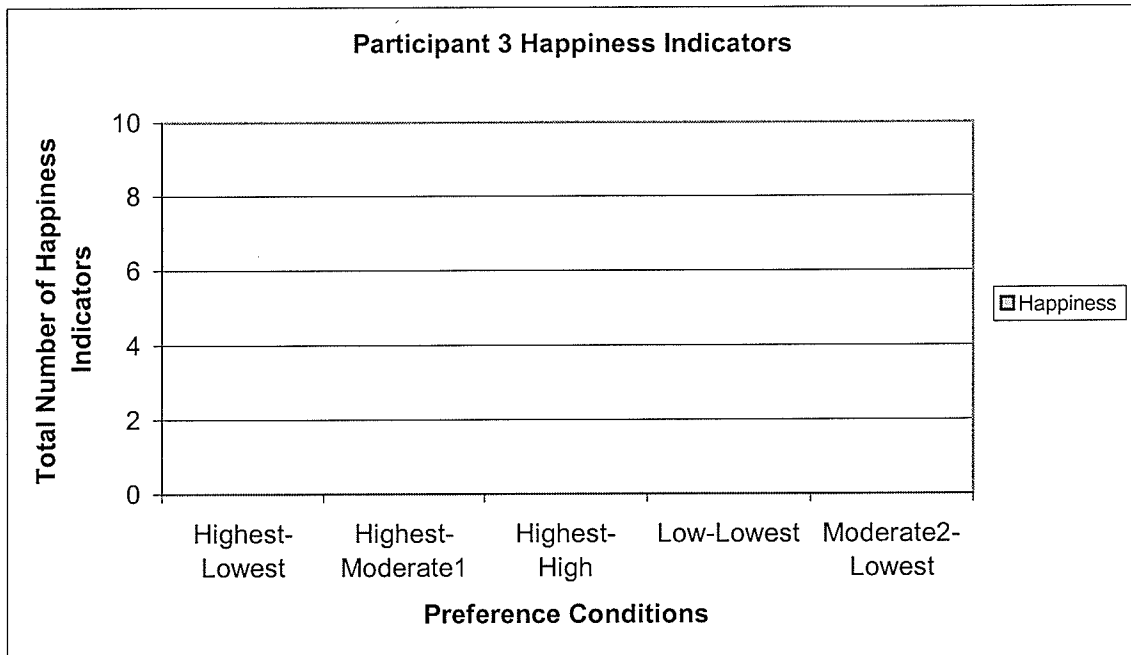


Figure 7. Total number of happiness indicators exhibited throughout the study in the five degree of preference conditions.