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USING CARD SORTS IN CAREER ASSESSMENT

by **Debra S. Osborn** and **Detra S. Bethell**

Abstract

Card sorts have been a career counseling tool since the 1960s, and have continued to be used to help individuals in the career decision-making process. This article provides an overview of the development and use of card sorts, including traditional card sorts, creative card sorts, a virtual card sort, and research on a virtual card sort.

The use of vocational card sorts in career counseling is an interactive approach to assisting clients in their career exploration. This approach to career counseling has its roots in the work of the 81st president of the American Psychological Association (APA), Leona E. Tyler (1906-1993). In her address to the APA's Division of Counseling Psychology she described a three-step approach to addressing client differences. In the first step, clients were seated in front of a board that housed 100 cards. They were asked to place the cards in three piles labeled Would not choose, Would choose, or No opinion (Tyler, 1961, p. 195). The second step in Tyler's approach was to use the cards in the Would not choose pile by reshuffling them and placing all that were rejected for a particular reason in one pile. Conversely, clients were instructed to reshuffle all the items in the Would choose pile and place those that were accepted for the same reason(s) in their own pile. Tyler's third step was to discuss each pile with clients and ask them to talk about the best and worst features of each pile. Thus began the card sort technique.

Since then, there have been many advancements, interpretations, and uses of vocational card sorts. Traditionally, they have not been viewed as a standardized counseling tool, and earlier researchers suggested that they should not be used as a self-administered inventory (Goldman, 1983). In fact, they are often considered symbolic representations of a client's thoughts or perceptions of careers and work (Osborn & Zunker, 2006). Another view of a card sort holds that it projects the client's values, goals, interests, and abilities relating to work (Goldman, 1983 as cited by Swanson & Bowman, 1994).

Card sorts are a hands-on approach to career exploration that might appeal to persons who are not interested in paper and pencil evaluations.

The result of the sorting process provides immediate feedback to clients as they work at their own pace and intellectual level. There is no waiting for a printout or a test report to be mailed back, and the individual can see the results unfolding as choices are being made, unlike the mystery that surrounds how checking yes or no, like or dislike, will somehow yield an almost magical list of occupations. Further, because a card sort involves the client in the entire process, it serves to validate the client's importance in the exploration of options. Additionally, if the counselor is present during the sorting process, independent observations can be made about the process so that the client is able to gain greater insight about the decision-making process. Finally, the flexibility of card sorts is advantageous because they can be used with diverse clients at minimal administrative cost, e.g., a set of cards can be used many times.

The Card Sort Process

In career counseling, an occupational card sort can be administered with or without the counselor being present. Usually, the client is asked to sort the cards into three piles: "Would not choose," "Would Choose," or "Unsure." The client is then instructed to resort the cards in each pile into different groups. At this point, the client decides what criteria to use to resort the cards. For example, a client may sort cards by salary or common activities such as helping occupations or technical occupations. Throughout the sorting process, the counselor could watch how the client approached the task, whether the client asked for approval from the counselor, or if the client flipped the card over to read an occupational description (suggesting a lack of occupational knowledge). In addition, a counselor would listen to "sort talk," the comments a client makes while sorting or discussing the sort results (Osborn & Zunker, 2006). The counselor could also observe how the client approached the task of sorting (Goldman, 1983).

Finally, the counselor works with the client to identify themes and understand why a particular card was placed in a category or group. The discussion would focus on what was attractive about cards in the "Would Choose" pile, what was unattractive about the "Would Not Choose" pile, and what information was needed to make a decision about the "Unsure" pile. Following this, the counselor might focus on the next steps in the process which most likely would include researching occupations of interest, or searching for more occupations similar to the ones in the "like" pile.

An alternative approach to the traditional sort would be to provide less structure in the directions, such as "Sort these cards into a way that makes sense to you." This approach was described by Peterson (1998) and provides a map of how the client organizes his or her thoughts with

respect to occupations. Following this type of sort, a counselor would likely ask the client to describe the different piles, label them, and look for emerging themes that may center on job tasks, environment, salary, educational/training requirements, gender beliefs, family issues, and so forth.

It is the interpretation of the card sort results that can be the most exciting or most challenging portion of a career counseling session for the counselor. With a traditional inventory or assessment tool, a counselor can quickly become familiar with the likely results and how the next steps are likely to occur. The number of possible three-letter Holland codes is 120 (Gottfredson & Holland, 1996), and research has generally supported the primary and secondary constructs (Holland, 1997). Based on findings like this for the SDS as well as for other standardized inventories, a counselor can have confidence in the interpretation of results. However, because the card sort is user-created and nonstandardized, each set of results is likely to be very different, especially if the more unstructured approach is used. In addition, the lack of research supporting the outputs of a card sort leaves many unanswered questions in the best way to interpret results. Perhaps this is why earlier researchers such as Goldman (1983) and Pinkney (1985) suggested that the card sort be looked upon as a tool to use in conjunction with standardized assessments rather than the producer of reliable assessment results.

Types of Card Sorts: Traditional Card Sorts

Traditionally, the cards in a card sort are printed on heavy paper such as card stock, and may have the name of an occupation on one side and some descriptor of the occupation on the other side. The descriptors might include the Holland code for the occupation or academic major, or interests, values, and skills associated with the occupation [see Figure 1].

Examples of commercially available card sorts include Knowdell Card Sorts (www.careertrainer.com), Deal-Me-In (www.careersystemsintl.com/dealmin.htm), the Missouri Occupational Card Sorts (MOCS; Bikos, Krieshok, & O'Brien, 1998), and Skillscan (<http://www.skillscan.com>).

The card sorts developed by Richard Knowdell are perhaps the most well known and widely used. These include the Career Values Card Sort, Motivated Skills Card Sort, Leisure & Retirement Card Sort, and the Occupational Interests Card Sort. These tools include cards, sheets on which to record the results, professional manuals, and even a training video on how to administer and interpret card sorts. These tools, especially the worksheets, can be very helpful in interpreting the results.

Creative Card Sorts

In addition to commercially available card sorts, career counselors can create their own card sorts. While these are not validated or tested for reliability, a positive feature of this approach is that the cards can be tailored to a targeted population. For example, someone working with elementary students can create a more whimsical type of sort, while a counselor working with high school students could create a card sort that is more technological in appearance. Words can be included on the sort, but a counselor might opt for pictures, which would lend themselves to a more projective activity. As part of a training requirement in the first author's graduate career development courses, students create their own card sort and instruction sheets. Figure 2 provides examples of some of the more unique card sorts created by these students. Examples of additional creative card sorts are shown at <http://careerresource.coedu.usf.edu/linkteachingtools/examplesoflessonplans.htm>.

A Virtual Card Sort

Technology has allowed the traditional card sort to be transformed into an online experience. The Virtual Card Sort (VCS; Osborn, 2003; <http://careerresource.coedu.usf.edu/linkcareerlab/card%20sort.dcr>) is a free tool that allows individuals to use a "click and drag" technique to sort 36 cards into three piles. The sort was designed to be used alone or preferably within the context of career counseling. The cards are color-coded for Holland type, and have an occupational title on the front. Users can click on the back of the card to see a brief description of the occupation that was taken from the **Occupational Outlook Handbook** (U.S. Department of Labor, 2007). The occupations all represent college-age or higher occupations as indicated in the **Dictionary of Holland Occupational Codes** (level 5 or 6; Gottfredson & Holland, 1996), because the VCS was designed for use with a college population.

After the client has finished sorting, the counselor can print out the sort results and review them using the process outlined with a traditional sort. In addition, the counselor may work through the additional process pages with the client or assign those pages as outside work. The links on this page are also interactive, so if a client wants to immediately learn about a career placed in any pile, the client can click on that title and be taken to the **Occupational Outlook Handbook** (U.S. Department of Labor, 2007) description (in a new window).

The process pages lead the individual to explore themes in the three piles, and also show the level of education required for each occupation (Gottfredson & Holland, 1996) and whether it was a predominately male or female dominated occupation. This latter information was determined by examining the Bureau of Labor Statistics' information on employ-

ment statistics (www.bls.gov). If an occupation had 70% or higher of one gender, it was indicated as a traditionally male or female occupation. The purpose of this was not to discourage someone away from an occupation that did not match their interests, but to provide a springboard for discussion about nontraditional careers.

In the summary report page, individuals are shown how to identify a tentative Holland code based on the results, using the most commonly listed type, i.e., not attempting to generate a 3-letter code.

On the next page of the report, clients are prompted to examine the Holland type work of their family members by writing down the persons' names for each Holland type. This allows clients to compare their first Holland RIASEC code letter to the letters of others in their family. This might be an important topic to discuss, especially if all the males in the family are in Enterprising or Realistic jobs, and a male client is considering Social occupations.

The final page provides information and links for additional information from the **Occupational Outlook Handbook** (U.S. Department of Labor, 2007) as well as the National Career Development Association (www.ncda.org) for information about finding a career counselor.

Research on the Virtual Card Sort

Since 2003, students (N = 83) in masters-level career development courses taught by the first author have completed a variety of assessments that produce Holland codes, including the Campbell Interest and Skills Survey (CISS), Interest Profiler from Florida Choices (IP), Self-Directed Search (SDS), and the Virtual Card Sort (VCS). First letter Holland Social codes for students taking the CISS, IP, SDS, and VCS were 50%, 58%, 85%, and 81%, respectively. Students in these courses are training to be counselors, so the expectation would be that their primary Holland type would be Social, and that is the case. From these percentages, it appears that there is more similarity between the SDS and the VCS than between the VCS and the other two instruments.

In addition, we examined the number of exact matches between the first letter of the summary code for the VCS and the first letter of the codes for the three inventories. The results showed first letter matches between the VCS and the CISS, IP, and SDS were 62%, 62%, and 81%, respectively. We then looked to see if the VCS first letter of the summary code was represented in the first two letters of the summary codes of each inventory. This proved to be true for the CISS 83% of the time, the IP 82% of the time, and the SDS 96% of the time. It should be noted that the recoding of the CISS was necessary in order to make a comparison with the card sorts. Specifically, we recoded Producing and Adventuring on

the CISS into Realistic; Analyzing into Investigative; Helping to Social; Influencing to Enterprising; and Organizing to Conventional.

In addition, students were asked to comment on the Virtual Card Sort and their comments included the following:

“The card sort was fun to complete and the report provided many thought provoking activities covering Holland types, educational level, gender issues, and family factors that may influence one’s occupational decision.”
“Overall, the activity was interesting and much more enjoyable than a traditional assessment.”

“I believe that my age is a factor in the consistency of the assessments. Older people have more experience in employment tasks and are probably better able to select likes and dislikes. This probably makes them more certain of their choices. The client’s age may be something to bear in mind when counseling on career decisiveness.”

“The card sort was a quick assessment that yielded similar results as well. It seemed to be more based on trends within your own thought patterns.”

“This card sort does not offer a detailed report of careers that you are best suited to, it is best suited to “getting one to start thinking.” It does not include an exhaustive list of careers; however, the included careers cover a broad range of fields. I appreciated the inclusion of family and gender considerations.”

The general comments suggested that the VCS was fun to use and that students appreciated the inclusion of family and gender issues. Overall, the results seemed to suggest that the VCS can be used as a starting place for discussion, and may yield highly reliable Holland types, especially when the first two letters of the code are included. The cases in which there was not a match in codes, even among the first two letters of the VCS and the first two types generated by other inventories, were especially interesting and merit further analysis. It is unclear why this happened. Was it because none or few of the occupations on the VCS appealed to the individual, whereas the inventories asked multiple questions designed for self-exploration of interests and then produced a list of potential occupations to consider? One might have expected the percentages of perfect matches to have been similar across the three inventories, but this was not the case, with the VCS most closely matching the SDS. For the VCS to become a validated career assessment tool, additional research is warranted.

Summary

Card sorts are a nonstandardized tool that career counselors can use to help clients with their career decision making. While there may be drawbacks to using card sorts (e.g., lack of standardization, the possibility of inaccurate results or difficulty in interpretation), there is also value in using this approach, because of the immediacy of results, ease of administration, cost, and creative uses (Osborn & Zunker, 2006). While card sorts can generate occupational options for consideration, their greater utility may be in providing a stimulus for deeper discussion of a client's career decision-making concerns.

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Appendices:

Figure 1. Traditional Card Sort Example

Figure 2. Examples of Student-Created Card Sorts

Figure 3. Example of a Virtual Card Sort

Figure 4. Summary Report of Your Occupational Card Sort

Figure 5. Summary Report of Occupational Card Sort

Figure 6. Summary Report of Your Occupational Card Sort

Figure 1. Traditional Card Sort Example

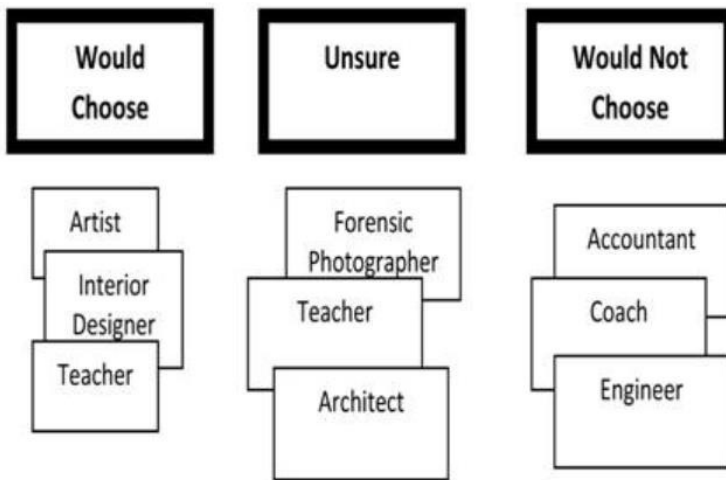


Figure 2. Examples of Student-Created Card Sorts



Figure 3. Example of a Virtual Card Sort

The screenshot shows a web browser window titled "CARD SORT" with a copyright notice for 2003. The interface is divided into three main columns for sorting cards:

- Would Choose:** A purple-bordered card labeled "Teacher" is placed in this column. The column header also includes the text "writer" above the card and "flip card" below it.
- Would not Choose:** An orange-bordered card labeled "Underwriter" is placed in this column. The column header also includes the text "sales writing" above the card and "flip card" below it.
- Might Choose:** A red-bordered card labeled "Ultrasound Technologist" is placed in this column. The column header also includes the text "ultrasound tech" above the card and "flip card" below it.

On the left side, a green-bordered card labeled "Special Agent (Government)" is shown. Below the cards, there is a text prompt: "When Finished [CLICK HERE](#) to view report".

Figure 4. Summary Report of Your Occupational Card Sort

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Would Choose
 Writer - A,6,n/a
 Teacher - S,S,F
 Psychologist - S,6,n/a
 Newscaster - E,5,n/a
 Dentist - I,6,M
 College Professor - S,6,n/a
 Coach - S,5,n/a
 Career Counselor - S,S,F
 Business Executive - E,5,n/a
 Architect - A,5,M
 Aircraft Pilot - R,5,M

This is a summary report of your occupational card sort. The following steps have been created to allow you to apply your card sort results to your career decision-making process. This can be completed with a counselor or as a stand-alone activity. The report will address the three piles in your card sort, beginning with the "Would Choose" pile and ending with the "In Question" pile. A summary of all three piles will be included at the end of the report, along with additional resources.

Working With the "Would Choose" Pile

Examine for themes

Look at the list of occupations in your "would choose" pile. Add any other occupations you have been considering that were not listed in the card sort. Examine each occupation to the right, write down a brief reason why you liked that occupation. Now look over your reasons. Do you see any themes? In the table below, write down a theme in each box. You do not have to use each box. Once you have written in the themes, write down the occupations that match those themes. There could be some overlap.

Note: you can click on the occupation for more information

| | | | |
|--|--|--|--|
| | | | |
| | | | |
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| | | | |

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Figure 5. Summary Report of Occupational Card Sort

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Summary Report of Your Occupational Card Sort

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Working With the Overall Card Sort - Cont.

What is the most commonly listed Holland type in your "Would Choose" occupations?

Note: If there is more diversity in your occupations, then you are more likely to have a mix of interests.

Write down the main Holland Type for each of your piles.

| | |
|--------------------------|--|
| Would Choose | |
| Would Not Choose | |
| Might Choose In Question | |

Continued on the next page

Would Choose

Miter - A, S/n/a
 Teacher - S,S,F
 Psychologist - S, S/n/a
 Newscaster - E, S/n/a
 Dentist - I, S, M
 College Professor - S, S/n/a
 Coach - S, S/n/a
 Career Counselor - S, S,F
 Business Executive - E, S, n/a
 Architect - A, S, M
 Aircraft Pilot - R, S, M

Would Not Choose

Underwriter - C, S,F
 Ultrasound Technologist - R, S,F
 Public Relations - E, S, n/a
 Nurse - S, S,F
 Mechanical Engineer - R, S, M
 Lawyer - E, S, n/a
 Landscape Architect - R, 4, M
 Judge - E, S, n/a
 Industrial Psychologist - I, S, n/a
 Fashion Designer - A, S, n/a
 Electrician - R, 4, M
 Credit Analyst - C, S,F
 Building Inspector - C, S, M
 Budget Analyst - C, S, n/a
 Auto Mechanic - R, 4, M
 Artist - A, S, n/a
 Archaeologist - I, S, n/a
 Actuary - I, S, n/a
 Accountant - C, S, n/a

Might Choose

Web Editor - C, S, n/a
 Special Agent - E, S, M
 Physician - I, S, M
 Photographer - A, 4, M
 Pharmacist - I, S, n/a
 Actor - A, S, n/a

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Figure 6. Summary Report of Your Occupational Card Sort

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Working With the Overall Card Sort - Cont.

Step 4. Family Factors

Sometimes, looking at the careers members in your family have held can provide additional insight. Beside each card listed above, write the name of any family member who has been in that occupation. You might wish to go through the list of people in each box and write a couple of descriptors next to his or her name. Now, using the table below, list the number of females in males in each Holland type for the "Would Choose," "Would Not Choose" and "Might Choose/in Question" pile. Use a highlighter or a star to indicate where your Holland type is for each pile. (For example, if "S" was the most common Holland type in the "would choose" pile, highlight "Social" in the first list of Holland types on the left).

This may reveal a history of working in traditional career fields, or perhaps a subtle pressure toward certain types of work and away from other fields. Where do your preferences lie in relationship to those similar and different to you in terms of gender? Look back over those adjectives you wrote next to those in your family. How do those adjectives relate to your ideas about yourself, as well as about that type of work?

| | Occupations / would choose |
|---------------|--------------------------------|
| Realistic | * |
| Investigative | * |
| Artistic | * |
| Social | * |
| Enterprising | * |
| Conventional | * |
| | Occupations / would not choose |
| | Males |
| Realistic | * |
| Investigative | * |
| Artistic | * |
| Social | * |
| Enterprising | * |
| | Females |
| | Occupations / might choose |
| | Males |
| Realistic | * |
| Investigative | * |
| Artistic | * |
| Social | * |
| Enterprising | * |
| Conventional | * |

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