**Multifaceted Interventions for Supporting Community Participation**

**Among Adults with Disabilities: A Systematic Review**

*Presenters:*

*Judith Gross, PhD, Amalia Monroe-Gulick, MLS, and Chad Nye, PhD*

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>>JOANN: Hello and welcome to today’s webcast, brought to you by the Center on Knowledge Translation for Disability and Rehabilitation Research (or KTDRR) at American Institutes for Research and the University of Kansas’ Research & Training Center on Independent Living project for Promoting Interventions for Community Living (known as (RTC/PICL). The Center on KTDRR and the RTC-PICL are both funded by the National Institute on Disability, Independent Living and Rehabilitation Research (or, NIDILRR) in the U.S. Department of Health and Human Services, Administration for Community Living. I am Joann Starks, with the Austin office of American Institutes for Research (or A-I-R). I also want to thank my colleagues Shoshana Rabinovsky and Steven Boydston, who are helping with the logistics today.

In today’s webcast, [*Multifaceted Interventions for Improved Community Participation Among Adults with Disabilities*](https://www.campbellcollaboration.org/library/community-participation-adults-with-disabilities.html), our presenters will discuss the systematic review carried out by a team from the RTC project, Promoting Interventions for Community Living. This review contributes to research identifying multifaceted interventions that are effective in facilitating increased community participation for adults with disabilities. Technical assistance from the Center on KTDRR helped support the review team’s activities in order to submit the review to the Campbell Collaboration’s Disability Coordinating Group. Now I’d like to introduce our speakers, as listed on this slide.

***Judith Gross, PhD***, is the director of the [Center on Community Living and Careers](https://www.iidc.indiana.edu/pages/cclc) at the Indiana Institute on Disability and Community.  Previously she was Assistant Research Professor at the University of Kansas, working with the Research & Training Center on Independent Living. In that capacity, she led the team that conducted this systematic review of multifaceted interventions leading to community participation outcomes for a NIDILRR grant on [Promoting Interventions for Community Living](https://rtcil.drupal.ku.edu/rtc-promoting-interventions-community-living).

***Jean Hall, PhD,*** is director of the Research & Training Center on Independent Living and a senior scientist in the Life Span Institute at the University of Kansas. Nationally recognized for her research related to health care, employment, and independent living for people with disabilities, Dr. Hall is leading the current study of interventions that promote community participation and she will be available during the Q and A part of the presentation.

***Amalia Monroe (GYOU-lick), MLS***, is an Associate Librarian with the [KU Libraries](https://lib.ku.edu/). As a member of the RTC/IL team, she assisted with design and implementation of multiple library searches for systematic and scoping reviews, including the present systematic review on multifaceted interventions promoting community participation among people with disabilities.

***Chad Nye, PhD***, is a consultant for KTDRR and conducted the data analysis for the systematic review team. He is a former Executive Director of the Center for Autism & Related Disabilities and Professor at University of Central Florida, College of Health and Public Affairs and he has over 20 years of experience in the area of meta-analysis and systematic reviews in the area of disability.

I am representing the Center on KTDRR on behalf of principal investigator and project director, Dr. Kathleen Murphy. Now…. let’s get started. If you have any questions during the presentation, please put them in the Chat Box and we will hold them to answer at the end of the presentation. I will now hand things over to Judith Gross….

>> JUDITH: Thanks, Joann and thanks to everyone online who has joined us today. We appreciate it. On the screen now is our agenda for the next hour. First, we will discuss why one would conduct a systematic review or meta‑analysis. Next, we'll talk about the partnerships that supported this research. Then we'll discuss what we did, how we did it, and what we learned, and finally we'll discuss the implications of our findings and have some time for question and answer at the end.

So why conduct a systematic review or meta‑analysis? So first and foremost, a systematic review provides us with a formal structured approach to reviewing all of the relevant and best available literature on a specific topic or outcome of interest. It provides this nice overview of the current state of the literature. And it is systematic in its process in that the procedures for conducting the review are clearly defined in advance making them replicable while also minimizing bias.

A systematic review can be qualitative or quantitative, but regardless the procedures for determining inclusion and method of analysis are still determined in advance and well documented. Systematic reviews, the studies included in systematic reviews are screened for quality to ensure that the findings of a large number of studies can be defined, the procedures for determining for inclusion in the study must address both issues of content relevance as well as research quality. In addition, peer review is a key part of the process of the procedures in our systematic review. So, in order to conduct a systematic review to get that overview of the current state of the literature, we must have some clearly defined inclusionary and exclusionary criteria, an explicit search strategy, so one that is structured and taking into account the differences in the databases you're looking in. It also needs to have a systematic coding and analysis, so something that is consistently done throughout researchers at the study. And a systematic review should include a meta‑analysis whenever possible. A meta‑analysis is the only one ‑‑ when we conduct a statistical analysis of the income and outcome of interest. We can use statistics to combine those outcomes and look at the overall effects of the treatment. So, by combining the samples of the individual studies that overall sample size then increased and that increases statistical power of the analysis as well as the estimates of those treatment effects.

So how did partnership support this research? When Joann was introducing, she mentioned that KTDRR had helped with supporting this research. So, I had previously worked at the University of Kansas with the research and training center on promoting intervention for community living and conducting a review of the literature was a part of their grant project plans that they had to conduct ‑‑ to implement their program for promoting community intervention. So, in that work we partnered with a university librarian who worked with the center multiple times on other projects, as well as had a research assistant and used the grant dollars to help fund the systematic review as required in one of our grant activities. Joann?

>> JOANN: Thanks, Judith. The Center on KTDRR is funded by NIDILRR to promote the use of high quality disability research that is relevant to the needs of the intended audience including people with disabilities and their families, researchers and policymakers, among others. Technical assistance activities are designed to support the knowledge translation efforts of NIDILRR grantees and we provide individualized assistance for any NIDILRR grantee interested in developing systematic reviews and research syntheses.

KTDRR worked with the Kansas team to submit the review to the Campbell Collaboration’s [Disability Coordinating Group](https://www.campbellcollaboration.org/about-campbell/coordinating-groups/disability.html) (DCG). The Campbell Collaboration is an international organization that promotes positive social and economic change through the production and use of systematic reviews and other evidence synthesis for evidence-based policy and practice. The Coordinating Groups are responsible for the production, scientific merit, and usefulness of Campbell systematic reviews.

The requirements of a Campbell Review are considered the gold standard of systematic reviews, and KTDRR assistance supported a statistical consultant and research assistant to help meet Campbell’s high standards. The title and protocol for the review are available in the Campbell Library, and we anticipate the final review will be published there very soon.

KTDRR staff work closely with Campbell’s DCG by volunteering in leadership roles. KTDRR also has a cadre of consultants with a range of experience in providing support in both research syntheses and systematic reviews. The KTDRR website also provides free access to numerous online resources and training materials. Interested NIDILRR grantees can contact KTDRR for additional information at [ktdrr.org/ta](http://ktdrr.org/ta). Thanks, and back to you Judith.

>> JUDITH: Thanks, Joann. With the support of KTDRR, we were able to take what was originally just a systematic review, which was a part of our work on community participation, and turn it into a meta-analysis. KTDRR provided some of the consulting support that was needed to be able to conduct the meta‑analysis.

So, what exactly did we do then? So, for our work on community participation, we had actually conducted two studies as a part of the systematic review because we had multiple research questions of interest. First, we conducted a meta‑analysis of 15 quantitative studies to determine the effectiveness of multifaceted interventions in promoting community participation. However, it was also within our research interest to learn more about the nature of those interventions. So, we also conducted a qualitative analysis of the content of those 15 articles, in addition to two quantitative articles whose data could not be included in the meta‑analysis and three qualitative articles that we had also found in our search. We qualitatively analyzed the content of these articles to better identify the intervention. The results of the qualitative study are not included in that analysis being presented today but are presented in a separate research article.

So how did we do it? So first we needed to define the outcome we were really looking at. So, community participation is huge. It encompasses many different things. We had to look carefully and think about how we defined the terms, what was a community participation outcome, what constituted a community-based setting? What exactly did we mean by multifaceted interventions? Much as we were looking through the literature, that in itself was defined differently in different ways, in different articles. So, we worked closely with our scientist consumer advisory planet to clearly define the target for our very view. The Research and Training Center on Promoting Interventions for Community Living had a scientist and consumer advisory panel that that supported providing advice on the review as well as helping us to answer key questions or concerns that we had with what should be included or what those inclusionary or exclusionary criteria really should be.

So, for the purpose of this review, we had to find multifaceted interventions as an intervention that seek to address two or more individual or environmental characteristics in different domains. So, what that meant, two or more individual character livings might mean changing something about the person such as enhancing their knowledge or skills or changing their behavior or perceptions or attitudes. Environmental character livings included changing something about the people, places or things in the environment in which that person interacts. And we specifically sought out different domains because it became difficult to think about how to distinguish something as multi‑faceted, because we had a lot of different opinions on what that actually looked like. By defining it as the multifaceted intervention as addressing different domains it made it much clearer as to what actually counted as a multifaceted intervention. So, by that we meant that it could be an intervention that targeted, say, social skills and employment skills or transportation and access to community, you know, engaging in community recreation activities. So, we're looking specifically that the intervention would address two different domains in that person's life. So, who did we include? Who were the participants in these studies? So, all of our participants in the studies were 18 years of age or older, identified as having one or more disabilities. So, we did not distinguish, it was not a disability specific study, it was cross disability and when we considered aging population, disability is defined a little differently when we enter aging populations. So, we defined it by limitations and activities of daily living and instrumental activity of daily living. We also our participants another way that we chose to limit ‑‑ or target ‑‑ focus our study was to limit our participants to those who had exited the secondary education high school setting and services. So specifically, this excludes transition service activities that the students may be engaged in while still enrolled in secondary education.

>> AMALIA: Thank you. So, the first step in the search process after working with the outcomes and participants was to identify the electronic databases we were going to use. So, after reviewing 15 databases and publisher journal package we selected three databases for our initial searching, pub med, Web of science, psych and bow. The process of building the search took some time. We eventually decided on two search concepts, disabilities and interventions. And the goal was to ensure that all types of disabilities that were included in the search results while excluding irrelevant results and database provided subject and/or classification limiters were utilized to reduce the number of results since our review search was really broad. For example, the use of limiters was very necessary in Web science because that database does not have a controlled vocabulary feature. Two additional databases, ProQuest ‑‑ and these sees global and policy file were also later searched to identify potential relevant gray literature. And the results of all searches were exported into end note and deduplicated for review process, search strategies, and results for documented in Excel. And now back to Judith who then will discuss the next step in the process.

>> JUDITH: Thanks, Amalia. So, after we had conducted the search ‑‑ that took quite a bit of collaboration among ourselves as a research team as well as going back to our scientist and consumer advisory panel when we would run into vocabulary challenges. Ultimately, we ended up with 4,742 articles from those searches and we reviewed all of those by abstract and title and there are at least two researchers who were involved in each review stage of the articles. So, after reviewing those 4,742 articles, we figured out we had maybe 186 left that we really needed to look more carefully at that full text to make sure that they met our criteria for inclusion and met our definition for community participation outcomes as well as determining whether or not it was a multifaceted intervention. Out of those 186 we ended up reviewing 37 for methodological quality. As of 37 we ended up with 15 studies, 15 quantitative studies that were measuring outcomes related to community participation that could be included in the meta‑analysis. So, when we talked about community participation we had a couple of ways in which we were defining community participation outcomes. So, we had primary outcomes which were those with direct access to the community. So, things like employment or postsecondary education, community recreation activities or housing, activities that ‑‑ or outcomes that very clearly were placed within the community, that it was easy to say this is a community participation outcome. However, in our research we know there are a lot of outcomes strongly associated with community participation, whether it's community participation is known to be associated with them or seems to be a dimension of community participation, such as physical health. We know that if somebody has strong physical health they're more likely to access the community. Same goes for being self-determined or having a social network or a high quality of life. We looked at those other outcomes as what we consider to be dimensions of community participation. So, we knew were associated with community participation but maybe were not maybe correctly located within the community. Chad, you want to talk about the analysis?

>> CHAD: Okay. So, we used the comprehensive meta‑analysis software, consider. MA for our meta‑analysis aspect of it. That software allows us to take the coding form that we use to define participate study characteristics, outcome characteristics and analyze them according to those categories of independent variables. We got 74 effect sizes generated from the 15 studies. We were able to combine or aggregate some of those data that we'll present here in a few minutes. The studies found some positive effects, primarily in the employment mental health and quality of life studies. Two other studies that met criteria for inclusion but weren't included in the data analysis part because, but we were unable to convert the base data into metric that would be analyzable by meta‑analysis process, effect size calculations. So, our 15 studies the studies we could generate an effect size based on the data presented. Judith?

>> JUDITH: Thanks. What did we learn from our study? One of the things that was fairly interesting in our findings was that much of the participants had a disability that makes executive functioning a challenge. Two of our studies had participants identified as having a TBI. Seven focused on people with mental health needs, four focused on those who were aging and having acquired disabilities with aging and one focused on individuals with developmental disabilities and another study did not report the disability of their participants. That became an interesting piece to observe because many of the multifaceted interventions being used in these 15 studies were specifically ‑‑ cognitive coaching component. So, it may have been something to help improve memory or increase some sort of executive functioning organizational skills or management of some sort. There were a number of countries represented. One from U.S., one Italy, China, Australia, and two from Germany. So, we had an international representation as well. General study characteristics of those 15 studies, they were ‑‑ we had searched from 2000 to 2016 but the 15 studies fell in that range of 2000 to 2014. Seventy‑four effect sizes were computed with a mean of five and a range of one to 22 and the length mean of treatment was 27 weeks and that ranged from four weeks to 105 weeks: And they don't have a detailed number because I've been struggling with getting a piece of software to open where that data is stored but I do know in our treatment groups we had well over 2,000 participants in total and is well over 1400 in the control group, but there are a number. I don't have exact numbers on that. So, we had a good participant size to work with as well.

Chad, you want to share about our other findings?

>> CHAD: Okay. So, a little observation. Sometimes we looked at research and published work kind of in attempt to identify a specific answer to a problem or clinical setting, patient, et cetera, and for a single patient, sometimes for a group, sometimes we're successful in finding that answer. Often though we're not because have a hard time finding a study or a result that matches the condition we're working in. At best we get partial answers. Sometimes we get no answers. What I find is that a lot of times leaders for the meta‑analysis are disappointed that they don't seem to have a specific answer to their questions they're about treatment. They only end up with an incomplete answer. So, I'd point this out to say that systematic review and meta‑analysis is intended to summarize existing research in a way that allows us to have kind of a cumulative picture if you happen of the available research on a particular topic. And to do it in a way that kind of focuses our understanding of what we know, what we don't know, what needs to be done or should be done to advance the knowledge base. So, we don't typically find a specific inconvertible evidence result in a meta‑analysis. In fact, what we really have is kind of an average statement. So, more information we have and the closer we get to some level of specificity at least some of the time so it's that sort of mind I'm starting this part of a presentation to say what we have here is a statement of the current state of what we believe anyway, it represents our knowledge of our multifaceted intervention. So, this slide shows you the individual studies, the effects size is hedge's G, smaller studies so they are more equitably included in the aggregation of the data. The lower and upper limits, 95 percent in the p‑value. So, if you notice there are under the hedge's G, effect size, there are three studies that have negative effects. That's for the study. What that is saying basically it's saying that the treatment group performed less well ‑‑ I want to say that differently. Control group did better than the treatment group. That's probably not an answer we're looking for. In the other studies where you find the positive effect size and a positive lower limit and upper limit such as the Gutman study here we know that the treatment condition performed significantly better than did the control condition of patient participation. When you take that same principle and apply it over here, look at the lower limit where you have negative effect sizes. In this case about I think eight studies here have negative effect studies. In fact, what it's saying is the result could be such that the control group would have performed better than the experimental group. You see that in the fact the P values are not statistically significant. Somebody's going to ask or say, well, yeah, but the overall effect is positive, lower limit's positive, upper limit's positive. That comes as a result of the grouping, the aggregation. Now, this is not data that we're going to hang our hat on. This is kind of a personal thing as much as anything. So, I can get a look at the individual studies and their overall results keeping in mind that in effect what we're doing is taking a view from 30,000 feet where we've included or not ‑‑ things ‑‑ randomized trial or quasi experimental trial, not accounting for differences in participant characteristics such as numbers of the participants or participant classifications. So, all of the independent variables in that form that we use to collect about the characters and studies are just lumped together. He gives me kind of a place to begin. With that in mind, let's take a look at some of the more specifics and at least a few of the ones that we have dealt with to this point. I've set up a sample from each much these categories, a couple of design characteristics that look at are there differences in treatment effects based on the scientific rigor of the design, treatment characteristics, length of treatment is one that we're always interested in and outcome characteristics here, the outcomes that were measured that showed significant or nonsignificant differences and so the number of studies then associated with each of these outcomes. So, you might see here there are some studies with one or two studies. Remember, we can do a meta‑analysis with two studies, but just as you would not make confirming kind of ‑‑ draw confirming kind of conclusions based on two subjects in the study, we wouldn't do that either with meta‑analysis. What it does do is gives us sort of an inkling, if you happen, or potential direction, same with the acceptable studies, we can calculate an effect size, but it's not provide us a single result that is confirming physician. These are the results for the employment outcome. In our study here, we had five studies that identified as randomize trials. Take a second to look at that one. One study that has negative effects all the way across. Even though it has a positive effect. You notice the range, from a minus 1.12 to as high as a .89. There's a fair amount of variability there but when we combine these studies just based on the design, we still end up with a nonsignificant treatment effect. You might say, well, what does that mean? Well, it means that the issue at least in terms of design may be a factor in explaining some of the results that we have generated in employment to the employment outcomes. Let's take a look at one of those potential ones. One of the things we wanted to look at was a method of analysis. Did the intention to treat the ITT methodology differ from those studies that used a test only treatment procedure? That is an intention to treat everybody gets a pre-post measure even if they don't complete the study. There's an attempt at least to estimate what the results would be if a person had completed the study. And the test only treat it means we only assess pre- and post- to those participants who had data available for that purpose.

Or before and after. The intention to treat shows a non-statistically nonsignificant effect. That is, the treatment groups didn't do as well as the groups in those studies whereas on the test only it was a pretty significant effect and it was fairly large. The interesting thing about this is that it gives us at least the attempt to make some kind of a judgment here about the impact of the method of analysis, you might say ‑‑ if you knew ‑‑ the success the intervention of those participating in the better invention, this might ‑‑ employment results for people with disabilities who might ‑‑ has a significant impact on their performance. If you view the intentions to treat kind of analysis, a representative of a more real-world representative of nature and interventions and training programs and instructions in general where people meet the program, drop out for whatever reason then the results are not nearly as impressive. So that's our attempt at least to look at one of the design factors. We looked at length of treatment. In the five studies these were the way they broke down. Now, one to ten weeks and 20 plus weeks is somewhat arbitrary. It's really a four weeks for the ‑‑ remaining from 54 to 105 weeks are. But there is potentially anyway the idea that the shorter interventions resulted in a larger more effective outcome which would not be overly surprising. The question might be raised is, yes, but interventions often take longer now particularly when you're dealing with subjects with disabilities that it defined in effect. These studies suggest at least there's some question anyhow about the effectiveness of the interventions based on the length of treatment as that treatment is extended over a period of weeks beyond 20 weeks. There is another studies that dealt with employment results. These were studies where the experimental group was compared to another treatment. I call it a treatment one versus two. We didn't include these in comparison we're aggregating across all outcomes because they're very different approach to the assessment of effectiveness. Think of it like this, you have treatment A and treatment B being compared but you have no studies to know that treatment A in fact is effective, nor do you have studies that show treatment B is effective. These studies have taken treatment A and B and are simply looking at is one more or less effective than the other. The result being as you might expect there are some for which there's no difference between the two studies and in Cook's case we got a significant difference for that outcome. There are only two studies like this and both not significant for that purpose. All three of them show a result but two are not significant. So, there were follow‑up assessments for employment in two of the studies, however, they both use different post treatment measurement kinds, so we couldn't really collapse them, and one study had a significant effect while the other did not. This is the situation where you really only have one study, so an aggregation of those studies is probably not warranted here. Doesn't provide us any really useful information.

Quality of life was another category where we got some significant result but is only two studies that reported outcomes of quality of life. One was an RCT where there was the experimental control and aging ‑‑ they reported the significant effect with an effect size that's approaching a large effect. The remaining study used the comparison of two interventions, an experimental intervention and a comparison of treatment one and treatment two and again was not significant. Mental health, there were only two studies. They were dealt with, but they were both RCT. They assessed mental health for aging patients and in this case the G is a statistically negative result, suggesting that control group perform better than the treated group. At least in terms of mental health outcomes we didn't find a positive effect for the condition. For adult education or learning there was one study as a comparison study again of treatment one and treatment two. We're assessing social skills and tasks and interpersonal skill development in a more formalized training program classroom type of setting with the psychiatric group, yielding a significant group difference for these participants, a fairly large effect size. That's of interest at least to me because the average human effect from intervention is ‑‑ some have reported about a .5 standard deviation or a G.5 would be considered a typical outcome. So whatever is going on in this study potentially has some effects that are beyond what we might otherwise expect at least as a reader of this or interpreter of this I'd say maybe went to look at this particular study and see what they're doing and try to assess what it is that might be driving that and follow that through with other studies that have some sort of similar process or design and act to their study, their research. Okay. So, we got nonsignificant outcomes in these other five categories that were listed earlier in Judith's presentation. That is, the results did not show an advantage of the intervention in which these outcomes were measured for the control ‑‑ for the experimental group that it was a nonsignificant result or comparison. Judith, I think it's back to you.

>> JUDITH: Thanks, Chad. Appreciate it.

So, what are the implications of what we found? So, we found there's limited support for the effectiveness of multifaceted interventions but there is some performance that need for more research to determine effectiveness broadly as well as specifically in relation to community participation of adults with disabilities. So, as I mentioned earlier, we looked at community participation fairly broadly. We included things like employment, continued adult learning, housing, civic involvement, recreation, navigating the community, those are all outcomes we consider to be direct access to our participation in the community. But we also looked at dimensions of community participation such as quality of life that we had mentioned or improved health. So, as we think about multifaceted interventions with he found the most support in employment and employment as we know has a lot of context in it that are supportive of ‑‑ that may require multiple interventions to address, for instance, people need transportation to work. There is just general employability skills. There's also those soft skills that folks need to have to be employed narrow focus, so maybe targeting specifically employment and looking for a group of adults with similar disabilities may kind of focus this study a little more for like a next step to focus maybe on those populations who need that additional support in the areas of executive functioning and on some of those more concrete outcomes like employment. When we look at practice that is something else to mention. When we consider somebody's employment in the community, we need to look at a lot of things. There are a lot of barriers that come up, for example, to people being employed, whether it's accessible transportation or social skills or having work experience or there is other actual hands on work skills learning a specific task for a job. All of those can lend themselves to multiple points of intervention and so when we looked at multifaceted interventions we thought of them as things that could happen to multiple points of intervention where we know people need support in order to get to their outcomes, whether it's employment or living in the community. So, with the multifaceted interventions that would be a thing to think of in practice is how do we use those interventions to improve those skills with an ultimate goal of increasing community participation? And so, in considering the research on those, you want to make sure there are measures going to not only measure the impact of the intervention but that targeted outcome we're looking for as well. Any questions or comments?

>> JOANN: Well, thank you very much, Judith. We do have a couple of questions that we've received. So also I'd like to introduce Dr. Jean Hall who's here to help answer our questions. And the first question I've got is was there a way to distinguish if any of the groups that develop, conducted or ‑‑ for people with disabilities.

>> JUDITH: So, none of the studies that were conducted were developed or conducted by people with disabilities and none of the ones that were included in the study indicated that there was any like support in regards to the research as far as participant ‑‑ participants supporting development of the research. So, I think that was the interesting thing to look into but that did not come up in any of the articles that we had.

>> JOANN: Thanks very much for answering that one, Judith. I was wondering Chad, could you clarify what an effect size is for those of us non-researchers?

>> CHAD: Okay. Effect size is the measurement of the effectiveness of an intervention or a treatment or instruction on a particular variable between two groups. I sometimes use the aspirin ibuprofen model. Does aspirin work better than ibuprofen? Well, I think ibuprofen is the only thing to use. My wife think it's aspirin. We fine the studies that have a compared ibuprofen to people who didn't take anything for their headaches. I hate headaches. My wife finds all the studies for aspirin and sure enough we find out they both are effective. So, the effect size at least is saying those two medications or headaches seem to work.

The assessment of the effectiveness of ibuprofen or aspirin then is another level of study where you compare subjects who have been treated with both does one work better than another. So, you got two levels to kind of think about, the effect and effectiveness of intervention.

>> JOANN: Thank you very much. We also had a question about the interventions that you discussed earlier, Chad. Can you give some examples of what some of those interventions were? I know it may be a little hard to pull them up, but that is the question.

>> CHAD: I think Judith can probably define that better than I can.

>> JUDITH: Sure. Yeah, I can give you a couple examples. So one example would be there was a study focused on improving employment outcomes and it had a vocational services component and it was working with veterans who identified as having mental health needs and there was also a cognitive study component of it that helps work on things like time management, organizing and planning and kind of being able to being structured tasks. That helps with that cognitive component that we've discussed. There were other studies, let me see if I can find another good example here. So, have another study focused on individuals with brain injury and it has outcomes on mental health and it was trying to improving patients' access to the community and trying to think of some others here. Let's see. Find one that's not employment. We have so many that's focused on employment.

Oh, the supported education one. That focused on I a adults with psychiatric disabilities and that incorporated a ‑‑ have a supported education program so it incorporated some occupational therapy services and focused on helping individuals who attended to be able to manage some of that ‑‑ the level of organization that was needed to complete the program as well as support individuals to participate in the program. Some of the occupational therapy skills focused more on that executive functioning again and helping folks to access the services and participate in education.

>> JOANN: Great. Thank you. Here's another question. What would you suggest to researchers designing multifaceted intervention studies to make sure that they can provide evidence of efficacy?

>> JUDITH: I would say making sure you have good measurement tools would be one so that you're surely measuring the outcomes of interest and the impact of the intervention. Chad, recommendations?

>> CHAD: Yeah, that would be a prime consideration. I think the other is to define the population carefully and in the area of disabilities it's not that you can do that with exacting, but you can describe it so that selection is better characterized, I guess, for the reader. I think you also need to look at the real question that's being asked and whether or not the tools that you would use for assessing the nature of the outcome, quality of the outcome are really appropriate and are really good tools. There's some debate in the literature about whether or not standardized measures should be used over observational. In part that's kind of a clinical practice question. If you don't have good tools at a standardized level then you have to deal with what you have. Measurements important and design preparation is important. How you handle dropouts, how do you handle people that don't complete? Do you have enough subjects in the data pool to be able to generate the kind of results you're hoping for?

>> JOANN: Thank you. Judith, did you see the follow‑up question about the social skills intervention if you recall if it was a CBT, and also if it's impossible to get sole citations of the articles included in the review?

>> JUDITH: I don't remember if it was a CBT, but yes, we can make sure that you get full citation.

>> JOANN: Okay, thanks. We've only got about four minutes left here, but I think we can maybe squeeze in another question. What research gaps do you think are the most important to address in the near future?

>> JUDITH: I think with regard to multifaceted interventions there's just not a lot of research that's looking at interventions in this way. There is ‑‑ and how we define it is different. So, there was one other systematic review in I think it was the Campbell Collaboration Library that covered multifaceted interventions but was defining them differently than we did. So, I think that part of that would be as we're looking towards how do we use multifaceted interventions that can help us to address, you know, the person, environment context issues that just making sure that we're figuring out how we can clearly define that and having consistency in that across studies. So, it's a multifaceted, I know it's one we as a research team really struggled with, like this multifaceted or not. And sometimes we went round and round in circles trying to sort through that. So, I think clearly identifying that piece of how people are defining multi‑faceted, we found that we had to get very specific in breaking that down and then really seeking out opportunities to test whether or not multifaceted interventions are more equative. Because we know that there are so many points in time that there's never just one factor that makes something work, right? Our research is designed often to test one variable here or there but there's often so many things that ‑‑ so many factors and so many contexts that feed into somebody being successful or an intervention working well. I think that clearly tapping into that piece and trying to parse out whether or not multifaceted interventions are truly impactful for which populations are they impactful. So, majority of our studies tended towards individuals who needed some help with executive functioning in managing tasks or organizing their day. So perhaps that is a key population to start this more focused research with.

>> JOANN: Okay, well thank you very much Judith. We are just about out of time. I see we have one more question. I don't know if we can squeeze that in. What quality of life measurement tools were popping up most frequently in your analysis of content for populations with disability?

>> JUDITHJ: I don't remember. I'm sorry.

>> JOANN: Okay, well maybe that's something ‑‑

>> JUDITH: I can look them up.

>> JOANN: We can follow up by e‑mail after this. We will be sending out an e‑mail to everyone once we have this archive ready for viewing and so we can answer that question maybe at that time. So, I want to thank everybody for being here today. And that's especially Judith Gross, Amalia Monro-Gulick, and Chad Nye for sharing information about this groundbreaking systematic review. And for everyone who is registered, we will be sure to let you know when the final review is published with the Campbell Collaboration.

We hope you'll take a few minutes to give us some feedback about the webcast by filling out a brief evaluation form. The link is here on this slide. It will also be posted in the chat box and we will send out that e‑mail with an evaluation link for everyone who can't get to it today.

So, I want to thank everyone for coming today. I also want to thank the AIR and University of Kansas staff who helped with planning and logistics, and of course we want to thank NIDILRR for their support to offer these webcasts and other events. We look forward to seeing you at the Center's next event which will be Thursday, November 1st at 1:00 p.m. Eastern. We are hosting a preconference webcast entitled KT 101, an introduction to knowledge translation or how to become Impactastic.

We also want to invite you to register for our 2018 Online KT Conference coming up next week during the afternoons of Monday, Wednesday, and Friday, November 5th, 7th, and 9th. Please visit our website at www.ktdrr.org for more details. Good afternoon and thank you very much.