

Intellectual and Developmental Disabilities

Using Video Modeling and a System of Least Prompts to Teach Participation in Faith Communities

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Using Video Modeling Plus A System of Least Prompts to Teach People with Moderate and Severe Disability to Participate in Faith Communities

Abstract

There is a need for meaningful inclusion of people with disabilities in faith communities beyond physical presence. Although it has been recommended that evidence-based practices be used to increase the meaningful participation of people with moderate and severe disability in faith communities, there is a lack of empirical studies. The purpose of this study was to examine the use of video modeling and the system of least prompts in teaching individuals with moderate and severe disability to participate in a community activity. The results indicated the intervention was effective in teaching the tasks in simulated situations and following acquisition, the behaviors generalized to the actual worship service or faith community setting.

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Using Video Modeling and a System of Least Prompts to Teach People with Moderate and Severe Disability to Participate in Faith Communities

People with disabilities make up the largest minority in the United States (Bunch, 2001). According to the U.S. Census Bureau (Brault, 2012), 18.7% or 56.7 million people had a disability in 2010. These disabilities can create challenges in obtaining employment, performing activities of daily living, (Creamer, 2003), and participating in community activities that contribute to an increased quality of life. For example, the 2010 Survey of Americans with Disabilities conducted by Harris Interactive for The Kessler Foundation and the National Organization on Disability (2010; <http://2010disabilitysurveys.org/indexold.html>) found gaps in participation between people with and without disabilities in their daily lives. Persons with disabilities were less likely to be working part- or full-time, more likely to be struggling financially, less likely to report that they socialized with friends or family, and less likely to go out to restaurants. Specifically related to community and leisure activities, Cordes and Howard (2005) surveyed adults with intellectual disabilities (ID), about participation in community and leisure activities. They found that, upon leaving high school, there was a sharp drop in the amount of physical activities (e.g., sports) and a significant increase in watching television and movies at home, indicating that activities that persons with disabilities engaged in while in school did not necessarily continue into adulthood. Additionally, Lipscomb et al. (2017) analyzed data from the National Longitudinal Transitional Study 2012 and found youths with intellectual disability and multiple disability participated less often in extracurricular community activities (e.g., sports, clubs) than individuals without disabilities.

Participation in Faith Communities

One area of community involvement valued by some individuals, is participation in a community of faith. However, attendance and participation at a place of worship also is a community activity that individuals with disabilities participate in less frequently. The 2010 Survey of Americans with Disabilities (Kessler Foundation/National Organization on Disability) found that that 50% of people with disabilities attended faith community services once per month, while 57% of people without disabilities attended services at least monthly. The percentage is even lower for people with severe disabilities (43%). The discrepancies have remained level since their 2004 survey, suggesting that architectural, communication, and attitudinal barriers to faith inclusion have not changed.

Despite the low participation rate reported in national surveys, researchers have reported that 65.5% of teachers of students with moderate and severe disabilities (MSD) reported their students attended faith community activities regularly (Kleinert et al., 2007). Similarly, Turner et al. (2004) interviewed adult individuals with ID and found they had strong religious identities and expressed a desire to participate in their faith community. However, when individuals with ID do attend their places of worship, researchers have found that the quality of their inclusion and participation in all facets of congregational activities needs improvement (Boehm & Carter, 2019) including an increased focus on hospitality, welcoming, and belonging (Carter, 2016). Not only do people with ID report attending services in faith communities less often than people without ID, but they face barriers to taking part in all of the facets of congregational participation. Inclusion in faith communities allows for the participation of people with disabilities in all facets and ongoing activities in the congregation alongside those without disabilities, with whatever modifications or supports are needed to accomplish it (Boehm, & Carter, 2019). For example, the literature has indicated that individuals with disabilities do not

often participate in meaningful congregational activities in their faith communities (Ault et al., 2013a; Shogren & Rye, 2005). For example, Boehm and Carter (2019) report that 95.6% of people with ID surveyed seldom or never served as an acolyte or altar server. Barriers to meaningful participation have included congregational members who can at times be resistant to age-appropriate inclusion in religious classes due to fear or discomfort (Minton & Dodder, 2003), faith communities that do not always make efforts for authentic inclusive activities (Collins & Ault, 2010; Turner et al., 2004), and faith leaders not having the education and experience in strategies for including people with ID in service activities (Stewart-Ginsburg et al., 2020).

One way to assimilate individuals with disabilities within their places of worship is to increase participation in meaningful ways by having them hold roles that are valued within the services of the worship (Wolfensberger, 2011). It is important that people with ID be seen in places, associate with other people, engage in activities that are valued by society and participate in community activities with typical members of society (Wolfensberger, 2000).

Some individuals with disabilities have skill and performance deficits in socio-communicative, behavioral, and functional skill domains needed to participate fully in the congregation. In order for individuals to participate as independently as possible in some of these tasks, it is necessary to accommodate and modify participation and to provide instruction on skills needed in the environment. Authors have made recommendations for enhancing inclusion and participation in faith communities including making modifications to religious materials to meet the needs of the persons with disabilities (Collins & Ault, 2010), incorporating universal design for learning principles (Collins et al., 2001; Shogren & Rye, 2005), and using evidence-

based practices (EBP) to instruct individuals with ID about their faith and to teach skills they need to take on a role in the congregation (Ault, 2010; Collins et al., 2001).

Video Modeling and System of Least Prompts

EBP that have been used in educational settings to teach the acquisition of new skills include modeling and prompting (Collins, 2012). Two strategies that have been used effectively to teach a variety of skills to learners with disabilities are video modeling (VM; Bellini & Akullian, 2007) and system of least prompts (SLP; Collins, 2012; Shepley et al., 2019). A VM intervention consists of the learner viewing a video of an individual performing the entire sequence of a task, followed by the opportunity to perform the task. If errors are made while the learner performs the task, the instructor can use an SLP, prompts presented in a hierarchy of least-to-most intrusiveness until the learner performs each step of the task analysis correctly. Specifically for individuals with MSD, a treatment package combining VM and SLP has been used effectively to teach adolescents with developmental disabilities to access videos on an iPod (Kagohara, 2011); adults with moderate ID to fold towels, recycle materials, and prepare a buffet table (Mechling et al., 2014); adults with moderate ID to use a device to send video of their location (Purrazzella & Mechling, 2013); and adolescents with moderate ID to complete tasks in a workroom, at the bowling alley, and at the grocery store (Taber-Doughty et al., 2013).

Although there are several articles recommending the use of EBP in faith communities (Ault et al., 2013b; Collins et al., 2001), a gap in the literature is the lack of empirical investigations conducted in these environments. Goldstein and Ault (2015) described the use of a variety of strategies to include a child with autism spectrum disorder (ASD) and his family in a Jewish synagogue, but not within an empirical investigation. Baggerman et al. (2015) described a single-case research study in which a faith community volunteer was coached to use EBP in a

successful effort to include a child with ID in a religious education class. However, based on our review of the literature, we are unaware of other examples of EBP used within faith community settings to teach skills related to participation. Likewise, despite the success of VM in teaching chained tasks (Gardner & Wolfe, 2013; Bellini & Akullian, 2007), no examples of its use in faith communities have been documented.

In the current study, we used a VM and SLP treatment package. This package was chosen to extend the literature across settings by using VM and an SLP. The package has been used in academic and work settings (e.g., Mechling et al., 2014; Taber-Doughty et al., 2013), but its effectiveness has not been experimentally analyzed in faith community settings.

Research Questions

Given the lack of research using EBP to teach the skills necessary for participation in community activities, the purpose of this study was to examine the use of EBP in teaching people with MSD to participate in a community activity, specifically within a faith community.

The research questions were:

1. Is a VM plus an SLP intervention effective in teaching people with MSD to perform tasks within simulated faith community situations?
2. After participants learned the tasks in simulated situations, were they able to perform the same tasks during actual faith community services or in actual settings?
3. How do family members, congregants, and a participant describe their perceived satisfaction with the goals, procedures, and outcomes of the investigation?

Method

Participants

Following institutional board approval for human subjects research and receipt of consent and assent forms, the investigators recruited three participants by initially contacting organizations serving people with MSD in a city in a southeastern state and following up on referrals by members of those organizations. Criteria for inclusion in the study included (a) having MSD, (b) regularly attending a faith community, (d) expressing the desire to participate in a faith community activity, and (e) having the fine and gross motor ability to hold or manipulate objects used for participation in the faith community (e.g., communion elements, processional cross, prayer shawl). Faith communities included in the study were (a) Christian (Episcopal), (b) Christian (Roman Catholic), and (c) Jewish. All participants were White and had English as their primary language.

Jack

Jack was a 23-year-old male identified with ASD and moderate ID. He lived at home with his parents and one brother. Jack received special education services in the public schools until he was 21. He had a caregiver during the day that assisted him with activities of daily life, hippotherapy, and a bowling league. He worked part time doing office tasks at a university in his city. Jack was verbal, but tended to be echolalic, so questions had to be repeated in several ways in order to get an accurate response. He was able to travel independently through familiar settings, but was unable to travel in the community by himself. Jack had a history of eloping, so his parents had alarms on the doors of their home; however, this behavior had decreased as he reached adulthood. Jack was able to tend to some activities of daily living independently, such as toileting, but needed assistance with transportation and preparing food.

Jack's family joined St. George's Episcopal Church (pseudonym) after experiencing difficulty having him included in the Catholic Church they attended. They attended services

infrequently because, although Jack was welcomed at St. George's, his parents expressed concern about his behavior and participation during services which occasionally interfered with his ability to attend to an entire church service. He sometimes made loud vocalizations and occasionally engaged in self-injurious behaviors, such as biting his hands. He also did not consistently participate in services as was done by the other congregants. The goal for this study was for Jack to learn and participate correctly in the routine of the Episcopal worship service as outlined in the Book of Common Prayer and used in weekly services in his church.

Marie

Marie was a 16-year-old female identified with Down syndrome and moderate ID. She lived at home with her parents and two sisters. Marie was home-schooled. Prior to being home-schooled, Marie attended a Roman Catholic parochial school. In addition to her school courses, Marie participated in activities such as dance class and serving as the manager of a local college's women's soccer team. She was verbal, socially outgoing, and able to express the fact that she wanted to participate in the services at her church.

Marie's family were lifelong Roman Catholics and members of a congregation located in the Newman Center affiliated with a university in their city. The family attended Sunday Mass on a weekly basis, as well as occasional weekday services. Marie was familiar with the worship services and expressed a desire to become a server during services.

Reuben

Reuben was a 12-year-old male identified with ASD and moderate ID. His parents were divorced, and he spent most of the week with his mother and Tuesday nights and alternate weekends with his father and stepmother. He received special education services in the public schools and had recently completed sixth grade. Although Reuben was verbal, he rarely initiated

conversations, but would respond when spoken to. He tended to speak softly and was difficult to understand at times. He enjoyed computers and videos, especially Disney movies.

Reuben's father and stepmother were members of Mikveh Yisra'el Synagogue (pseudonym) a Conservative Jewish congregation, where they attended services four times per month. Reuben's brother had recently become a Bar Mitzvah, and Reuben and his parents wanted him to learn Jewish blessings and prayers that would be used in services as well as in preparation for his own Bar Mitzvah.

Investigator

The investigator was a White English-speaking female who was a doctoral candidate in special education, had 20 years of experience teaching special education, and had conducted several successful video modeling and prompting studies.

Setting

Jack and Marie's probe, intervention, maintenance, and generalization sessions were conducted in the faith community of each participant. Reuben's sessions were conducted in his home, and the generalization probe was conducted in the synagogue.

When probe and intervention conditions were conducted in a faith community, they did not take place during the actual faith community services or activities in order to avoid disturbing services with audio related to the VM, verbal cues and praise, and the prompt sequence. The training took place in an empty setting, with additional people included only if necessary. For example, another person participated by assuming the role of the priest and accompanied the participant learning to be a server during a Roman Catholic Mass.

Generalization and maintenance probes were conducted during regular worship services or

worship settings for all participants. Services for Jack and Reuben were formal services. Marie's services were contemporary, or more informal services.

Materials/Equipment

The investigator (first author) developed three task analyses for each participant, one for each of the behaviors needed to complete the tasks in the specific faith communities. The task analyses were developed by interviewing faith community leaders regarding what they regarded as important steps in their respective worship services. The investigators subsequently created VMs of all steps in the task analyses. The VMs were recorded with an iPad®, edited with iMovie® software to include titles and transitions, and played back on an iPad® during the intervention condition. Actors used for the VMs were persons from each faith community who were of the same age and gender as the participant, or a familiar person. Additional adults were incorporated as actors in the VMs when necessary. The video models ranged from 0.5 – 6 min in duration. In addition to the VMs, the investigators used additional materials during actual worship services needed to complete the task analyses. The materials used in the VM were the actual materials used in worship services.

Experimental Design

The study used a multiple probe (days) across behaviors design (Gast et al., 2018; Horner & Baer, 1978) replicated across participants and settings in different faith communities to answer the primary research question.

For each participant, the investigator conducted a minimum of five one-on-one probe sessions on the behaviors they would be learning (three tiers) prior to introduction of the independent variable. The order that behaviors were introduced across the tiers corresponded to the sequence the behaviors were performed during worship services. When a stable or

contratherapeutic trend in the data occurred, the investigator began intervention on the first tier. When the data for the first tier indicated that the participant had a therapeutic change in level over five sessions, the investigator began intervention with the next behavior. The procedure continued until all behaviors were taught. The investigator collected intermittent probe data on untrained tiers. A functional relation was demonstrated for each participant when their responding changed when and only when the independent variable was applied.

Dependent Variable and Data Collection

The dependent variable was the percentage of independent responses on steps of the task analyses during probe and intervention sessions. The task analyses for Jack included participating as a congregant during worship services, and included (a) *gathering for the service* (10 steps) which involved entering the church, making the sign of the cross, bowing, and standing at correct times; (b) *participating in the liturgy of the word* (10 steps), which involved singing with the hymn, standing during appropriate times, and responding to prayers; and (c) *participating in the offertory* (10 steps), which involved saying the Lord's prayer, participating in communion, and standing at appropriate times. The task analyses for Marie included participating as a server and included (a) *preparing for the opening session* (14 steps) which involved putting on the proper garments, getting needed materials and placing them in correct location, and standing at the correct times; (b) *assisting with communion* (15 steps) which involved holding the text for the priest, putting materials in the correct location, bringing materials to priest, and standing in correct location; and (c) *participating in the closing procession* (7 steps) which involved holding the book, taking the cross from altar, moving to correct locations, and putting garments in the correct location. The task analyses for Reuben included (a) *putting on the talis* (7 steps) which involved putting the prayer shawl on correctly

and saying the blessing; (b) *participating in the blessing* (8 steps) which involved walking to the correct position, touching and kissing items in sequence, and reading blessings; and (c) *saying the Shema* (8 steps) which involved covering eyes and reading lines of the prayer.

During probe, intervention, maintenance, and generalization sessions, the investigator recorded unprompted correct (i.e., independent), incorrect, or no responses on each step of the task analyses. Unprompted correct responses were defined as the participant initiating a step within 3 s of the task direction or the completion of the previous step, and completing the step with the correct topography, in the correct sequence, and within the correct duration.

Unprompted incorrect responses were defined as the participant initiating a step within 3 s of the task direction or completion of the previous step, but (a) completing the step with an incorrect topography, (b) initiating a step out of sequence, or (c) not completing the step within the correct duration. Unprompted no responses were defined as the participant not initiating a step within 3 s of the task direction or the completion of the previous step.

Experimental Conditions

Probe

The investigator collected probe data for a minimum of five consecutive sessions immediately prior to instruction in the tier receiving instruction and intermittently in untrained tiers. Probe sessions were conducted using single opportunity probe procedures (Alexander et al., 2017). During probe sessions, the investigator used a general attentional cue (e.g., “Are you ready?”), and ensured an attentional response (e.g., nodding or stating, “yes.”) before proceeding. The investigator then gave a verbal task direction (e.g., “Show me how to get ready for prayer.”) and provided a response interval for the first step. For each unprompted correct response, the investigator provided descriptive praise for that step (e.g., “Great job standing for

the hymn”). When an unprompted incorrect response or no response occurred, the investigator thanked the participant, ended the session, and scored all remaining steps as incorrect.

Intervention

The independent variable was a video model of the entire task presented immediately prior to performing the task, plus an SLP procedure presented in a total task format. The SLP procedure involved a hierarchy of prompts that was delivered in a least-to-most sequence based on participant responding while the participant was performing the task. The prompt hierarchy was individualized depending on the task and participant being taught. Jack and Marie’s prompts were provided in the sequence of a gesture, verbal, then partial physical prompt (partial physical only for the non-verbal tasks), and Reuben’s sequence included verbal, gesture, then partial physical prompts.

During each intervention session, a trial consisted of the investigator using an attentional cue and ensuring the participant gave an attentional response. The investigator then presented the iPad, activated it, and ensured the participant viewed the video one time through (providing redirection if the participant looked away). Immediately after viewing the VM, the investigator said, “Now you try it.” The investigator then provided a 3 s response interval for the participant begin the task. For each step of the task analysis, the investigator provided 3 s for the participant to initiate the step (independent level). If an unprompted correct response occurred (i.e., correct response at the independent level), the investigator provided descriptive praise for that step. If the participant made an unprompted incorrect or no response within the response interval, the investigator provided the next more intrusive level of the prompt hierarchy. At any point in the prompt sequence that resulted in a correct response, the investigator provided descriptive praise

for that step and recorded the prompt level that was given that resulted in a correct response. Four trials were conducted during each intervention session.

Maintenance and Generalization

Maintenance and generalization probe procedures were conducted intermittently after a therapeutic level over five sessions was reached on a behavior. This occurred for all behaviors except for the last trained behavior for each participant in which only generalization probes were conducted. Maintenance probes were conducted using probe procedures.

The investigator conducted generalization sessions in the actual faith community service or setting once all behaviors had been learned as a generalization post-test. However, not generalization pre-tests were conducted. The time-lapse between final intervention session and generalization probe varied across participants. For Jack and Marie, these sessions were conducted in the actual worship service with the faith community leader leading the service, other worshippers present, and music being played. For Reuben, the generalization sessions were conducted in the synagogue, but the summer schedule prevented conducting the generalization session during an actual service. The investigator conducted generalization trials using natural opportunity probe procedures (Ledford et al., 2019). The investigator or faith leader of the service provided the task direction to begin the chained task. The investigator then recorded the steps of the task analysis that the participant performed correctly or incorrectly during the duration of time that was allocated for the task in the service. No consequences for unprompted correct or incorrect responses were given during the generalization probes.

Social Validity

Social validity data were obtained in order to determine the social significance of the dependent variable and the importance of the change in the dependent variable as a result of the

intervention. The trainer interviewed all parents, all faith community leaders, members of the Episcopal and Roman Catholic congregations, and one participant (Marie) regarding their perceptions of the goals, procedures, and outcomes of the study (Wolf, 1978). Jack and Reuben did not respond consistently to direct questions and were not included in the interviews. The investigator asked interviewees general questions with follow-up prompts as needed. Follow up prompts asked what the interviewee thought about this participation before and after seeing the participant do the task. A final question was open ended to allow the interviewee to remark on any other aspect of the study.

Reliability

A doctoral candidate, trained in observation criteria, independently collected interobserver agreement (IOA) and procedural fidelity (PF) data for at least 20% of probe, intervention, generalization, and maintenance trials. The observer was trained using role playing prior to the trials. The observer was required to reach 90% accuracy before in vivo observation of trials.

Interobserver Agreement and Procedural Fidelity

The reliability observer collected IOA data for 29%, 37%, and 29% of the trials for Jack, Marie, and Reuben respectively. The reliability observer collected PF data for 25% of Jack's trials, 35% of Marie's trials, and 32% of Reuben's trials. During probe trials, the observer collected PF data on the investigator behaviors of providing an attentional cue, ensuring attention response, giving the task direction, providing correct consequences based on participant responding, and ending the session upon an incorrect response. During intervention trials, the observer collected data on the behaviors of providing an attentional cue, ensuring an attentional

response, showing the video model, providing the task direction, delivering the prompts in least-to-most order, and providing correct consequences based on participant responding.

Results

Acquisition Data

Figures 1, 2, and 3 show the percent of independent responding on faith community participation behaviors during probe, intervention, maintenance, and generalization trials for Jack, Marie, and Reuben, respectively. The graphs also show the percent of prompts delivered during each trial. The data indicate that the use of VM and SLP was effective in teaching three behaviors to each participant, and a functional relation was established for all participants. The investigator analyzed the use of SLP to determine if VM alone was responsible for the change in participant responding or if prompts were needed following the VM to evoke correct responding.

Jack

Across all behaviors, Jack had zero-celerating stable probe data. When the independent variable was introduced for each behavior, an immediate change in level occurred with 100% nonoverlapping data points. Jack was one of two participants who needed prompts delivered from the entire prompt hierarchy at least once. He required all prompts on Task 1, only gesture and verbal prompts on Task 2, and only gesture prompts on Task 3.

Marie

Across all behaviors, Marie had zero-celerating stable probe data. When the independent variable was introduced for each behavior, an immediate change in level occurred with 100% nonoverlapping data points. In terms of prompts delivered that evoked correct responding, she required a minimal number of prompts in the hierarchy of the SLP.

Reuben

Across all behaviors, Reuben had zero-celerating stable probe data. When the independent variable was introduced for each behavior, an immediate change in level occurred with 100% nonoverlapping data points. In terms of prompts delivered that evoked correct responding, he required gesture and verbal prompts for Task 1, gesture and verbal prompts for Task 2, and gesture, verbal, and physical prompts for Task 3.

Generalization and Maintenance

Maintenance probes were conducted intermittently following intervention and the generalization probes were conducted in actual worship services (Jack and Marie) and worship settings (Reuben) a number of days following intervention.

Jack

Jack's maintenance and generalization probes indicated a high level of responding. During intervention and maintenance trials, he had difficulty in the Liturgy of the Word task analysis with steps that required him to stand. During the generalization probe conducted during an actual service, Jack's parents and the rest of the congregation provided natural cues to stand during both steps, and he did not exhibit difficulty demonstrating those behaviors. Overall, he was able to independently exhibit the behaviors necessary for participation in the service.

Marie

Marie had high levels of maintenance responding for Task 1, however maintenance sessions were not conducted for Tasks 2 and 3. Rather, two generalization probes were conducted because the director of servers scheduled her to serve the day after her last intervention trial and also 2 weeks after intervention ended. The probes were conducted during actual noon masses and included all elements of a typical Catholic mass that were not present

during intervention (e.g., other worshipers, priest, music). She demonstrated the behaviors needed to perform her server duties with two different priests in the services.

Reuben

Reuben had high levels of responding on his maintenance probe trials. His generalization probes were conducted at the synagogue and included all elements present in that setting including the bimah, Torah Ark, pews, and table. Reuben was able to perform all behaviors necessary for participation in a service, although he needed a verbal prompt to begin step 4 of the blessing task analysis (i.e., read first half of blessing). As with Jack, Reuben benefitted from natural cues, such as the rabbi calling him up to the table for step 1 of the blessing task analysis.

Social Validity

The investigator analyzed the responses of the interviews. First, related to the goals of the study, a layperson who served as an actor in the video model for Jack, Marie's mother, and Reuben's rabbi indicated that it was important for people with disabilities to be involved and participate in their places of worship. Marie indicated that she wanted to learn to be a server and to serve on a continuing basis. Reuben's parents indicated that it was important for him to learn behaviors to use during services and for his Bar Mitzvah. Second, related to the procedures, Jack's priest indicated that the training was helpful for him to learn the order of the service. Marie said she liked learning using VM and she thought it would be helpful to learn other tasks using that strategy. Marie's director of servers indicated that VM resulted in Marie learning the tasks quickly and he said he would like to use the VM and SLP treatment package to train other servers. Third, related to the outcomes, Jack's parents indicated they were pleased with his participation in the service, and both his priest and a layperson indicated he participated appropriately and performed similarly to other congregants. Marie's priest and the director of

servers indicated that she performed her server duties in a similar manner as other servers.

Reuben's parents stated that if he had not participated in the study, he would not have been able to become a Bar Mitzvah.

Interobserver Agreement and Procedural Fidelity

IOA across all trials for the number of steps completed independently and the number of steps completed with prompts was 95% (range = 70% - 100%) for Jack; 96% (range = 67% - 100%) for Marie; and 95% (range = 75% - 100%) for Reuben. One trial dropped below 80% for Jack and Marie, and two trials dropped below 80% for Reuben. IOA was raised to acceptable levels after the investigator clarified response definitions for Jack and Reuben, and after the observer had a better position to clearly view responding for Marie. PF across all trials for the percent of behaviors completed correctly was a mean of 99.5% (range, 97%-100%) for Jack; a mean of 98% (range, 86-100%) for Marie; and a mean of 99% (range, 91%-100%) for Reuben.

Discussion

Effectiveness of VM and SLP

All three participants reached a therapeutic level of response on all three task analyses within a faith community setting. The study contains the What Works Clearinghouse (2014) design standards of systematic manipulation of the independent variable, adequate percentages of IOA in each phase of the study with at least 80% or better agreement, five data points per condition, and at least three demonstrations of effect across three participants (Kratochwill et al., 2013). One limitation of Jack's design was that probe data were not collected in untrained tiers at least every eight sessions. However, visual analysis of the data showed a clear functional relation between the introduction of the intervention and acquisition of behaviors needed for participation in a faith community taught within simulated settings. The SLP was needed for two of the

participants to enhance the acquisition of behaviors required for participating in a faith community. However, for some participants (i.e., Marie for all tasks, Reuben for first task), only a few prompts were needed for acquisition. It is possible that the video model alone may have been effective in teaching some of the skills to the participants. Other research studies have demonstrated the effectiveness of VM alone to teach chained behaviors (Rausa et al., 2016; Spriggs et al., 2016) although many studies combine a prompting strategy in addition to a VM to correct errors that occur when the participant performs the task being taught (Alcantara et al., 1994; Shipley-Benamou et al., 2002). Other researchers should report the number and types of prompts that were delivered if a prompting strategy is added to a VM intervention so that the level of prompts needed for an intervention to be successful can be evaluated.

It is possible that other, less intrusive interventions may have resulted in similar outcomes, although this remains an empirical question requiring comparative analysis. However, for all participants, some level of prompting was required in addition to the video model albeit only minimally for some tasks. Future research should continue to document the participant characteristics for whom certain interventions are effective as well as conducting comparative analyses to make recommendations on the relative efficiency of interventions, keeping in mind that the least intrusive, yet effective interventions should be used.

Generalization of Behaviors

Although not evaluated experimentally, all three participants generalized the behaviors learned to a novel worship service or novel faith setting. Jack was able to participate in the Episcopal service with his parents and the congregation providing natural cues. Marie was able to adapt to changes in the priest and the tasks she was expected to perform during two Roman Catholic services. Reuben was able to perform tasks related to a Jewish service in the synagogue

with the Rabbi and the Torah reader providing natural cues. These data are limited however, in that we did not collect performance data in the actual setting prior to intervention. Collecting pre-intervention generalization data and measuring performance in the generalization setting periodically throughout intervention would have provided additional data to evaluate the effects of the intervention in a generalization context. This proved difficult to do because doing so in some instances would have interrupted an ongoing worship service. However, future research should investigate experimentally generalization in natural environments.

Social Validity

The social validity data were gathered using subjective evaluation in the form of interview responses from one of the participants and from others in the environment. While subjective evaluation allows for qualitative data to be added to the performance data gathered in the experiment, the interview instrument did not have psychometric properties and the evaluation may have been biased toward a positive outcome (Barton et al., 2018). Different interviewees within the places of worship did observe the individuals doing the tasks in a manner consistent with typical performance and affirmed the importance of the intervention. The interviewees indicated that the intervention had utility within the faith community setting. One individual mentioned that they could use the intervention in the future with other people in the congregation.

However, some limitations should be noted. First, most congregants did not observe the intervention procedures being implemented and so limited numbers of individuals could comment on the acceptability of the procedures. Second, the intervention was conducted by an outside investigator rather than those who would typically teach these tasks (i.e., faith leaders, parents), therefore the ecological validity of the procedures cannot be determined. Future

research should address the delivery of the intervention using indigenous intervention agents and assess social validity in an objective format. For example, researchers could video individuals performing the tasks in their places of worship before and after the intervention so that blinded observers could view the videos and rate participants on the acceptability of their performance.

Contribution to the Literature

Although VMs are often used in school settings, the emphasis on transition and quality of life across the lifespan (AAIDD, 2009; TASH, 2013) make it important to conduct research on the use of VM in all the settings people with MSD may encounter. This study demonstrated that VMs can be used to teach people with MSD to participate in a community activity. Although some researchers have found participation in a faith community to be one of the most commonly accessed community settings for people with MSD (Kleinert et al., 2007), there are no studies in the literature that have used VMs to teach people with MSD to participate in faith communities.

Future Research

This study offered initial evidence that VM and an SLP is an effective treatment package in teaching people with MSD behaviors necessary for participation in a faith community. However, there are several considerations for future research. First, the faith communities represented in this study were limited to liturgical Christian congregations and a Jewish congregation. These types of faith communities follow a specific sequence of prayers, responses, and actions, which lend themselves to the creation of task analyses. Because of the limited types of faith communities represented by the participants in this study, future research should include a wider representation of faith communities, including non-liturgical Christian (e.g., Baptist, Pentecostal, Latter Day Saints, Jehovah's Witness), Islam, Hinduism, Buddhism, and New Age.

Second, further analyses of additional systematic instructional strategies that can be implemented within the context of community settings should be conducted. This study was implemented by a researcher. It is important for future research to ensure that indigenous implementers can use the strategies with fidelity because in community settings such as faith communities, volunteers and parents are often responsible for teaching the tasks described in this study. For example, in the Baggerman et al. (2015) study, a volunteer religious class leader was taught to increase the participation of an individual with a disability. Therefore, it would be important to ensure that volunteers and adults could replicate the procedures in this study.

Finally, since all participants in this study were White and attended predominantly White congregations, it is important that future research include congregations in culturally diverse or historically marginalized communities (Avent et al., 2015).

Conclusion

In conclusion, the current study demonstrated the effectiveness of a VM and an SLP in teaching people with MSD to participate in a community activity, specifically a faith community. The data indicate that all three participants were able to reach a therapeutic level of response in three task analyses. An SLP proved effective in enhancing the acquisition of behaviors required for participating in a faith community for two of the participants. Finally, all three participants were able to generalize the behaviors learned in a novel service or setting. This study resulted in individuals with disabilities being able to participate in meaningful ways in their places of worship and to hold roles that are valued within the services of the worship.

Acquiring skills to participate in community settings, such as places of worship, will allow individuals with disabilities to participate in least restrictive environments, but acquisition of skills alone will not ensure inclusion. Other authors have addressed the importance of attitudes

and beliefs within faith communities as important in enabling inclusion. For example, Carter (2007) discussed that welcoming congregations are those that actively encourage membership and participation of people with disabilities. Ault et al. (2013a) found that parents indicated welcoming and accepting attitudes were an important factor in enhancing inclusive participation within faith communities. And Griffin et al. (2012) found more inclusive communities were those that focused on social justice (including welcoming and roles of people with disabilities) and had faith leaders with beliefs of inclusiveness. However, when individuals acquire behaviors in which others congregants see them in leadership or serving roles (i.e., valued social roles), their social status is elevated as contributing members of the community and positively affect the attitudes of the congregants as defined by Wolfensberger (2011) in his social role valorization theory.

References

- Alcantara, P. R. (1994). Effects of videotape instructional package on purchasing skills of children with autism *Exceptional Children* 61(1), 40-55.
<https://doi.org/10.1177/001440299406100105>
- Alexander, J. L., Ayres, K. M., Shepley, S. B., Smith, K. A., & Ledford, J. R. (2017). Comparison of probe procedures in the assessment of chained tasks. *The Psychological Record*, 67(4), 547-557. <https://doi.org/10.1007/s40732-017-0257-9>
- American Association on Intellectual and Developmental Disabilities (2009). Quality of Life: Joint Position Statement of AAIDD and The Arc. <http://aidd.org/news-policy/policy/position-statements/quality-of-life#.VMXXsa4k0o>
- Ault, M. J. (2010). Inclusion of religion and spirituality in the special education literature. *The Journal of Special Education*, 44(3), 176–189. <https://doi.org/10.1177/0022466909336752>
- Ault, M. J., Collins, B. C., & Carter, E. W. (2013a). Congregational participation and supports for children and adults with disabilities: Parent perceptions. *Intellectual and Developmental Disabilities*, 51(1), 48-61. <https://doi.org/10.1352/1934-9556-51.01.048>
- Ault, M. J., Collins, B. C., & Carter, E. W. (2013b). Factors associated with participation in faith communities for individuals with developmental disabilities and their families. *Journal of Religion, Disability & Health*, 17(2), 184-211.
<https://doi.org/10.1080/15228967.2013.781777>
- Avent, J. R., Cashwell, C. S., & Brown, J. S. (2015). African American pastors on mental health, coping, and help seeking. *Counseling & Values*, 60(1), 32–47. <https://doi.org/10.1002/j.2161-007X.2015.00059.x>

- Baggerman, M. A., Ault, M. J., Collins, B. C., Spriggs, A. D., & Slocum, V. (2015). The effect of coaching on a faith community volunteer's use of effective teaching behaviors. *Research and Practice for Persons with Severe Disabilities, 40*(4) 294-306.
<https://doi.org/10.1177/1540796915602479>
- Barton, E. E., Meadan-Kaplansky, H., & Ledford, J. R. (2018). Independent variables, fidelity, and social validity. In J. R. Ledford, & D. L. Gast (Eds.), *Single case research methodology: Applications in special education and behavioral sciences* (pp. 133-156). Routledge.
- Bellini, S., & Akullian, J. (2007). A meta-analysis of video modeling and video self-modeling interventions for children and adolescents for children and adolescents with autism spectrum disorders. *Exceptional Children, 73*(3), 264-287.
<https://doi.org/10.1177/001440290707300301>
- Boehm, T. L., & Carter, E. W. (2019). Facets of faith: Spirituality, religiosity, and parents of individuals with intellectual disability. *Intellectual and Developmental Disabilities, 57*(6), 512–526. <https://doi.org/10.1352/1934-9556-57.6.512>
- Brault, M. W. (2012). Americans with disabilities: 2010. *U.S. Department of Commerce Economics and Statistics Administration U.S. Census Bureau*.
<http://www.census.gov/prod/2012pubs/p70-131.pdf>
- Bunch, W. H. (2001). Toward a theology of inclusion for those with disabilities. *Journal of Religion, Disability, & Health, 5*(4), 37-44. https://doi.org/10.1300/J095v05n04_03
- Carter, E. W. (2007). *Including people with disabilities in faith communities: A guide for service providers, families, and congregations*. Brookes.
- Carter, E. W. (2016). A place of belonging: Research at the intersection of faith and disability. *Review and Expositor, 113*(2), 167-180. <https://doi.org/10.1177/0034637316637861>

- Collins, B. C. (2012). *Systematic instruction for students with moderate and severe disabilities*. Brookes.
- Collins, B. C., & Ault, M. J. (2010). Including people with disabilities in the religious community: Program models implemented by two churches. *Journal of Religion, Disability, & Health, 14* (2), 113-131. <https://doi.org/10.1080/15228961003622195>
- Collins, B. C., Epstein, A., Reiss, T., & Lowe, V. (2001). Including children with mental retardation in the religious community. *Teaching Exceptional Children, 33*(5), 52-58. <https://doi.org/10.1177/004005990103300508>
- Cordes, T. L., & Howard, R. W. (2005). Concepts of work, leisure and retirement in adults with an intellectual disability. *Education and Training in Developmental Disabilities, 40*, 99-108.
- Creamer, D. (2003). Toward a theology that includes the human experience of disability. *Journal of Religion, Disability, and Health, 7*(3), 57-67. https://doi.org/10.1300/J095v07n03_05
- Gardner, S., & Wolfe, P. (2013). Use of video modeling and video prompting interventions for teaching daily living skills to individuals with autism spectrum disorders: A review. *Research and Practice for Persons with Severe Disabilities, 38*(2), 73-87. <https://doi.org/10.2511/027494813807714555>
- Gast, D. L., Lloyd, B. P., & Ledford, J. R. (2018). Multiple baseline and multiple probe design. In J. R. Ledford, & D. L. Gast (Eds.), *Single case research methodology: Applications in special education and behavioral sciences* (pp. 239-282). Routledge.
- Goldstein, P., & Ault, M. J. (2015). Including individuals with disabilities in a faith community: A framework and example. *Journal of Disability & Religion, 19*(1), 1-14. <https://doi.org/10.1080/23312521.2015.992601>

- Griffin, M. M., Kane, L. W., Taylor, C., Francis, S. H., & Hodapp, R. M. (2012). Characteristics of inclusive faith communities: A preliminary survey of inclusive practices in the United States. *Journal of Applied Research in Intellectual Disabilities, 25*(4), 383-391.
<https://doi.org/10.1111/j.1468-3148.2011.00675.x>
- Horner, R. D., & Baer, D. M. (1978). Multiple-probe technique: A variation of the multiple baseline. *Journal of Applied Behavior Analysis, 11*(1), 189-196.
- Kessler Foundation & National Organization on Disability Survey of Americans with Disabilities (2010). The ADA, 20 years later: Executive summary.
<https://www.socialgrantmakers.org/sites/default/files/resources/Suvery%20of%20Americans%20with%20Disabilities.pdf>
- Kagohara, D. M. (2011). Three students with developmental disabilities learn to operate an iPod to access age-appropriate entertainment videos. *Journal of Behavioral Education, 20*(1), 33-43. <https://doi.org/10.1007/s10864-010-9115-4>
- Kleinert, H. L., Miracle, S., & Sheppard-Jones, K. (2007). Including students with moderate and severe intellectual disabilities in school extracurricular and community recreation activities. *Intellectual and Developmental Disabilities, 45*(1), 46-55. [https://doi.org/10.1352%2F1934-9556\(2007\)45%5B46:ISWMAS%5D2.0.CO%3B2](https://doi.org/10.1352%2F1934-9556(2007)45%5B46:ISWMAS%5D2.0.CO%3B2)
- Kratochwill, T. R., Hitchcock, J. H., Horner, R. H., Levin, J. R., Odom, S. L., Rindskopf, D. M., & Shadish, W. R. (2013). Single-case intervention research design standards. *Remedial and Special Education, 34*(1), 26-38. <https://doi.org/10.1177/0741932512452794>
- Ledford, J., Lane, J. D., & Barton E. E. (2019). *Methods for teaching in early education*.
Routledge.

- Lipscomb, S., Haimson, J., Liu, A.Y., Burghardt, J., Johnson, D.R., & Thurlow, M.L. (2017). Preparing for life after high school: The characteristics and experiences of youth in special education. Findings from the National Longitudinal Transition Study 2012. Volume 2: Comparisons across disability groups: Full report (NCEE 2017-4018). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance.
- Mechling, L. C., Ayres, K. M., Purrazzella, K. & Purrazzella K. (2014). Continuous video modeling to prompt completion of multi-component tasks by adults with moderate intellectual disability. *Education and Training in Autism and Developmental Disabilities*, 49, 3–16.
- Minton, C. A., & Dodder, R. A. (2003). Participation in religious services by people with developmental disabilities. *Mental Retardation*, 41(6), 430-439.
[https://doi.org/10.1352/0047-6765\(2003\)41<430:PIRSBP>2.0.CO;2](https://doi.org/10.1352/0047-6765(2003)41<430:PIRSBP>2.0.CO;2)
- Purrazzella, K., & Mechling L. C. (2013). Use of an iPhone 4 with video features to assist location of students with moderate intellectual disability when lost in community settings. *Education and Training in Autism and Developmental Disabilities*, 48, 179–189.
- Rausa, V., Moore, D., & Anderson, A. (2016;2015;). Use of video modelling to teach complex and meaningful job skills to an adult with autism spectrum disorder. *Developmental Neurorehabilitation*, 19(4), 267-274. <https://doi.org/10.3109/17518423.2015.1008150>
- Shiple-Benamou, R., Lutzker, J. R., & Taubman, M.(2002). Teaching dally living skills to children with autism through instructional video modeling. *Journal of Positive Behavioral Interventions*, 4(3), 165-175. <https://doi.org/10.1177/10983007020040030501>

Shepley, C., Lane, J. D., & Ault, M. J. (2019). A review and critical examination of the system of least prompts. *Remedial and Special Education, 40*(5), 313-327.

<https://doi.org/10.1177/0741932517751213>

Shogren, K. A., & Rye M. S. (2005). Religion and individuals with intellectual disabilities: An exploratory study of self-reported perspectives. *Journal of Religion, Disability, & Health, 9*(1), 29-53. https://doi.org/10.1300/J095v09n01_03

Slocum, V. (2016). *Using video modeling plus a system of least prompts to teach people with intellectual disability to participate in faith communities*. [Doctoral dissertation, University of Kentucky]. <https://doi.org/10.13023/ETD.2016.493>

Spriggs, A. D., Gast, D. L., & Knight, V. F. (2016). Video modeling and observational learning to teach gaming access to students with ASD. *Journal of Autism and Developmental Disorders, 46*(9), 2845-2858. <https://doi.org/10.1007/s10803-016-2824-3>

Stewart-Ginsburg, J. H., Baughan, C. C., Smith, J. D., & Collins, B. C. (2020): Sanctuaries, “special needs,” and service: Religious leader perceptions on including children with disability, *Journal of Disability & Religion, 24*(4), 413-430.

<https://doi.org/10.1080/23312521.2020.1776188>

Taber-Doughty, T., Miller, B., Shurr, J., & Wiles, B. (2013). Portable and accessible video modeling: Teaching a series of novel skills within school and community settings. *Education and Training in Autism and Developmental Disabilities, 48*, 147–163.

TASH (2013). *TASH resolution on supports in the community*.

<http://tash.org/blog/2013/12/19/tash-resolution-life-community/>

- Turner, S., Hatton, C., Shah, R., Stansfield, J., & Rahim, N. (2004). Religious expression amongst adults with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities, 17*(3), 161–171. <https://doi.org/10.1111/j.1468-3148.2004.00192.x>
- What Works Clearinghouse. (2014). *Procedures and standards handbooks* (Version 3.0). U.S. Department of Education. ies.ed.gov/ncee/wwc/DocumentSum.aspx?sid=19
- Wolf, M. W. (1978). Social validity: The case for subjective measurement or how applied behavior analysis is finding its heart. *Journal of Applied Behavior Analysis, 11*(2), 203-214. <https://doi.org/10.1901/jaba.1978.11-203>
- Wolfensberger, W. (2011). Social role valorization: A proposed new term for the principle of normalization. *Intellectual and Developmental Disabilities, 49*(6), 435-440. <https://doi.org/10.1352/1934-9556-49.6.435>
- Wolfensberger, W. (2000). A brief overview of social role valorization. *Mental Retardation, 38*(2), 105-123. [https://doi.org/10.1352/0047-6765\(2000\)038<0105:ABOOSR>2.0.CO;2](https://doi.org/10.1352/0047-6765(2000)038<0105:ABOOSR>2.0.CO;2)

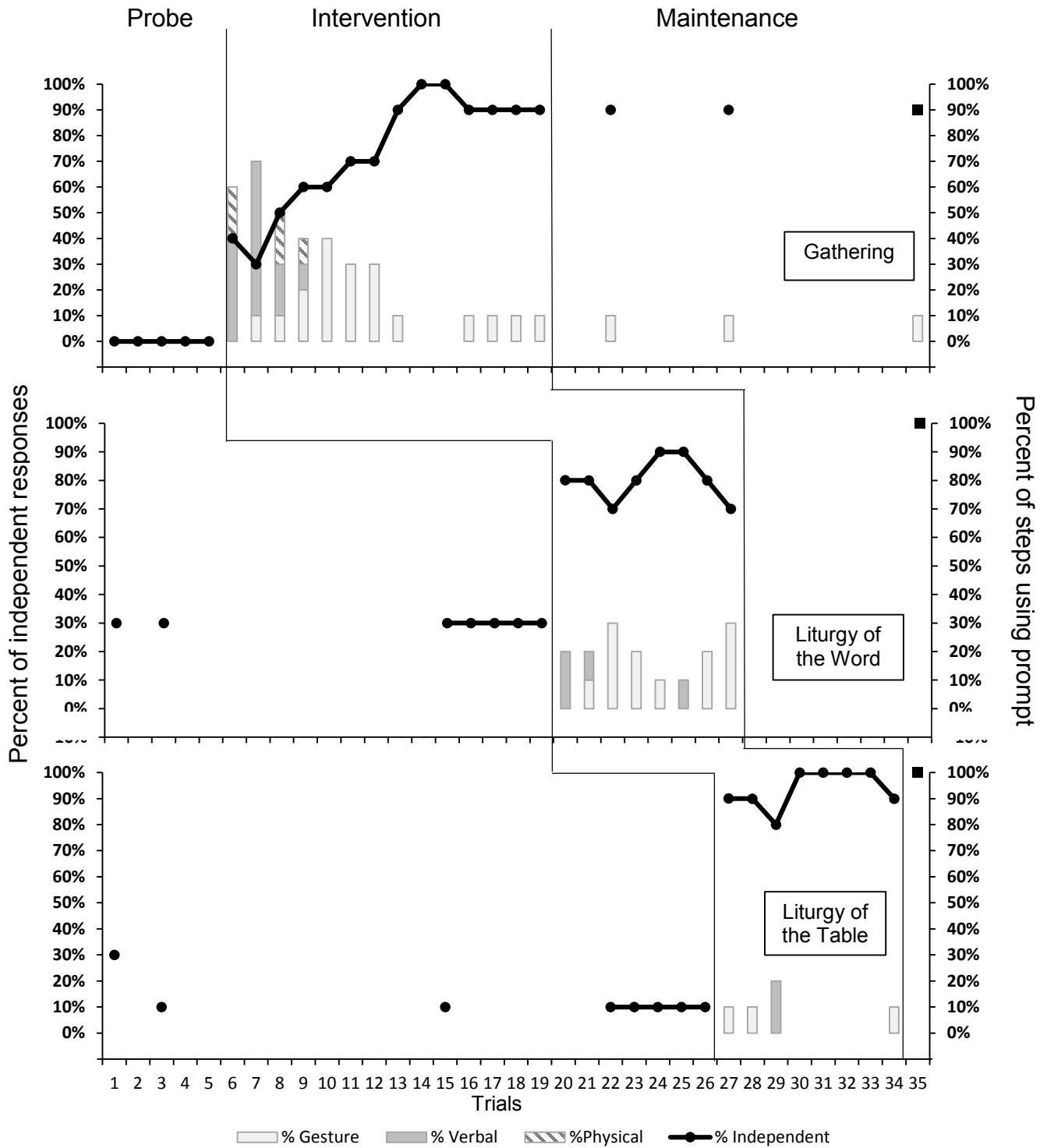


Figure 1. Number of responses by Jack across behaviors. Line graph represents independent responses. Stacked bar graphs represent prompt hierarchy. Closed squares represent generalized performance.

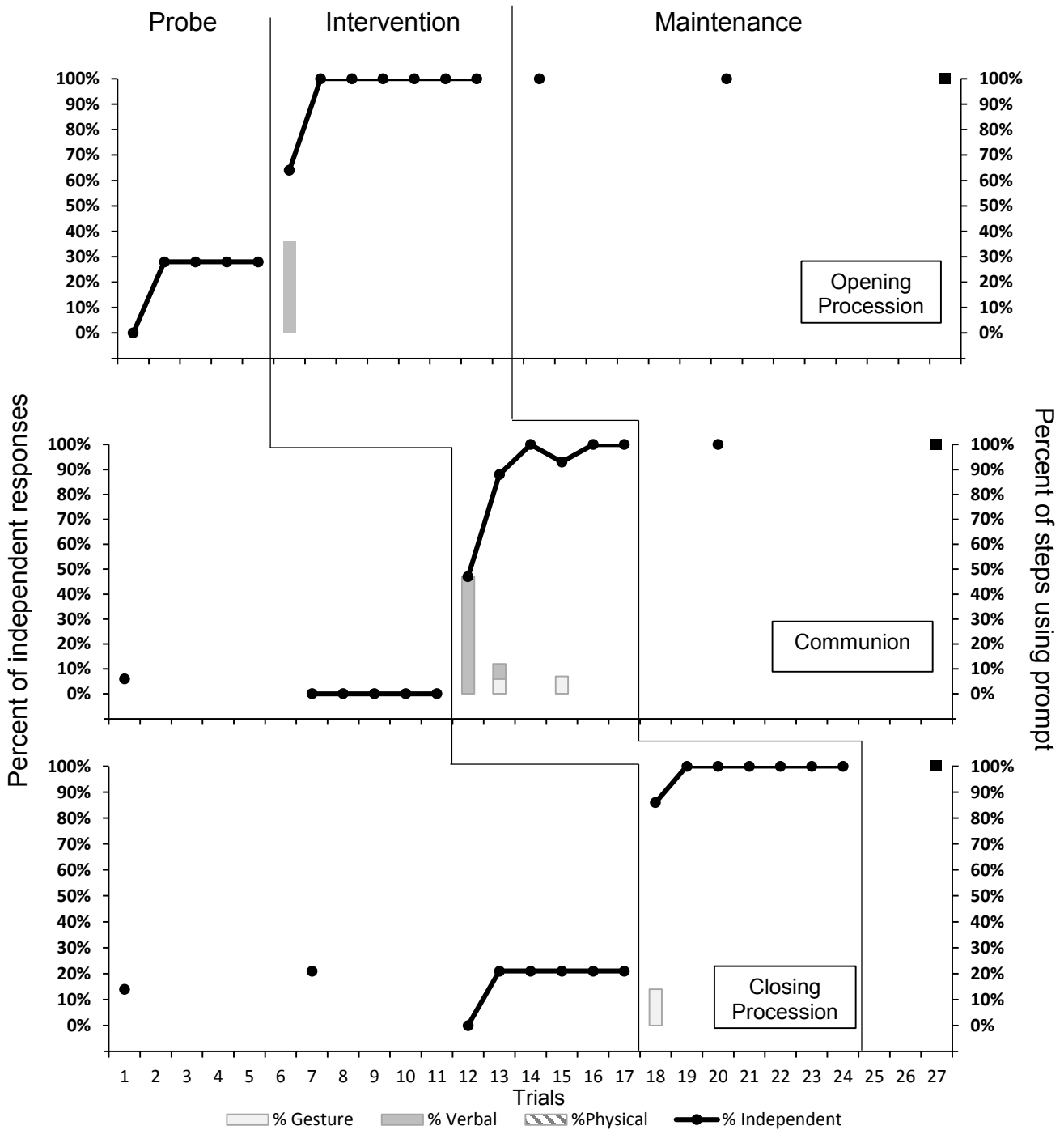


Figure 2. Number of responses by Marie across behaviors. Line graph represents independent responses. Stacked bar graphs represent prompt hierarchy. Closed squares represent generalized performance.

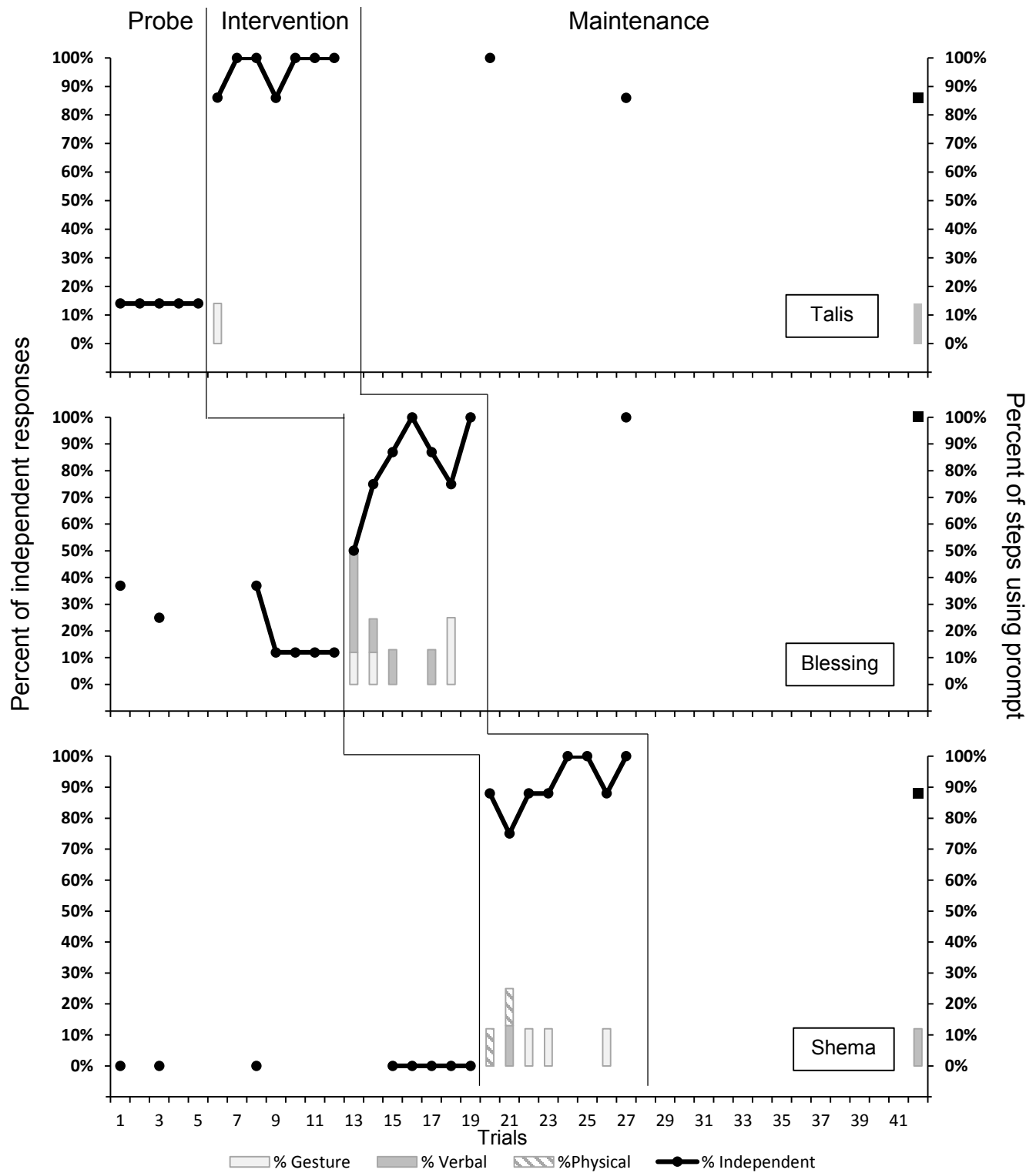


Figure 3. Number of responses by Reuben across behaviors. Line graph represents independent responses. Stacked bar graphs represent prompt hierarchy. Closed squares represent generalized performance.