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The Effectiveness of Differential Reinforcement and Least-to-Most Prompting in Reducing Non-compliance Behavior of Autistic Child

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Abstract

Background. Children with Autism Spectrum Disorder (ASD) are at higher risk of exhibiting challenging behaviors, and assessing their underlying functions is imperative in developing an individualized treatment for them. The present study aims to evaluate the effectiveness of the Applied Behavioral Analysis (ABA) technique to reduce active non-compliance behavior of a 6-year-old girl diagnosed with ASD in a private Special Education school setting.

Method. The study was conducted in three different phases: (1) pre-intervention (baseline), (2) intervention, and (3) post-intervention phase, while using the partial interval recording method for collecting data. At baseline, the functional behavioral assessment (FBA) was employed to outline the function of active non-compliance behavior. During the intervention phase, the ABA technique of Differential reinforcement of low-rate behavior (DRL) and least-to-most prompting was implemented.

Results. The result indicated a reduction in the problem behavior from 88.82% (baseline) to 38.85% during the intervention phase. Active non-compliance was estimated at 63.16% in the post-intervention period, which is comparatively exhibited at a lower rate. Also, the FBA suggested that active non-compliance behavior was maintained by escape/avoidance from the instructions.

Conclusion. The study findings concludes that appropriate implementation of DRL arrangements and least-to-most prompting can effectively reduce non-compliant behaviors in ASD children. These data are further discussed, strategies to accommodate the child, and recommendations for future researches are also highlighted.

Keyword. Non-compliance, differential reinforcement, prompting, Applied behavior Analysis, Autism, Pakistan

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Introduction

Autism Spectrum Disorder (ASD) is a neurodevelopmental disability in which young children manifest multiple delays and unusual patterns in the social, emotional, communication, and behavioral domain. It is further characterized by social reciprocity, restricted interest, and repetitive behavior (American Psychiatric Association, 2013) that induce severe deficits in overall functioning at an early age. Likewise, ASD children are at greater risk to exhibit maladaptive and challenging behaviors, including disruption, elopement, tantrums, impulsivity, aggression, self-injury, and non-compliance with daily routine tasks/demands (Lecavalier, 2006). Such behaviors are detrimental to these children and others, are socially inappropriate, cause self-isolation, and interferes with the child's learning process and skill acquisition. Thus, behavior modification techniques are widely used to treat and bring requisite changes in behavioral and symptomatic issues. At most, interventions based on applied behavior analysis are found to be effective in reducing problem behaviors in autistic children (Beavers et al., 2013).

Accordingly, the present study focuses on the most common challenging behavior among ASD children, non-compliance. It can be defined as the refusal to follow directions, rules, or wishes of someone else, while it can be active (crying, screaming, and aggressive) or passive (ignoring) (Speaks, 2019). The child purposively non-comply and behave uncooperatively when provided with a task. The underlying reasons can be diverse, such as task difficulty level, fatigue, sensory issues, biological needs not being met, and lack of ability to process the incoming information. However, most of the time, non-compliance is associated with escaping from the task at hand. As described by Kalb and Loeber (2003), *non-compliance* is a form of defiance and disobedience, whereby a child performs anything other than what has been requested by an authority figure (parent/teacher). Autistic children (mild to severe range) were found to be less compliant and desire to escape during parent-child interactions (Lemanek et al., 1993) and with the tasks that are prohibited by parents (Arbelle et al., 1994).

The assessment of the topography and function of the challenging behavior in ASD children is imperative in developing an individualized behavior intervention plan, implementing appropriate strategies, monitoring and evaluating treatment progress (Hong et al., 2018). In particular, the study conducted by Hong et al. (2018) highlighted that non-compliance behavior in 3216 children with autism, the most common function was escape.

There have been a variety of behavior interventions developed that are targeted to improve problem behavior in ASD children. It has been estimated that behavioral interventions are effective and bring more than 80% of reduction in problem behavior, while functional assessment substantially increases the likelihood of treatment success (Horner et al., 2002). Similarly, one of the studies indicated that implementing applied behavioral analysis program on ASD children can result in considerable alterations and improvements in maladaptive behavior, specifically progression in intellectual abilities, communication skills, and socialization (Makrygianni et al., 2018). Since non-compliance in ASD is linked with delays and escaping from task completion, appropriate use of reinforcement techniques is likely to increase the propensity of complying with the provided task. Moreover, simple commands/instructions to teach a new skill and making the correct response contingent to the reinforcement can also decrease the non-compliance behavior of autistic children.

In addition, positive reinforcements are effective to decrease non-compliance behavior maintained by escape conditions (Slocum & Vollmer, 2015). *Differential reinforcements* are intensively used to treat several problem behaviors and lowering their frequency, intensity, and duration by adding a desirable stimulus to the child's environment. One of the types is *Differential reinforcement of low rates (DRL)*, where a child is only reinforced when exhibiting the problem behavior less frequently than before. It has been suggested that ASD children demonstrate socially significant behavior, respond better under

DRL arrangements (Piper et al., 2020). In specific, DRL for non-compliance behavior has not been researched excessively, though the study indicates that it successfully minimizes the rate of problem behavior and depicts negative contingency strength between the target response and reinforcer (Bonner & Borrero, 2018). The DRL schedules include interval DRL and full-session DRL that are designed to maintain problem behaviors at an acceptable rate with contingent reinforcement. As proposed by Ferster and Skinner (1957), when using interval DRL, one is required to divide the session into intervals and reinforcing the behavior if it occurs less often per interval than it previously does. Since, children with ASD manifest a wide range of problem behavior, including non-compliance, such DRL schedules can effectively reduce its occurrence.

With deficits in communication and social skills in ASD children, appropriate cues and assistance to bring about the correct response for the given request are essential to teaching and learning procedures. Neitzel and Wolery (2009) define *prompting* as providing support that facilitates the use of specific skills. Since teaching a new skill to an autistic child is challenging, using prompts to deliver a special hint for a target behavior to occur may serve an important purpose. Further, avoidance of the task and not complying with the requests of the teacher are common among ASD children when the task is either difficult or beyond the level of understanding of the child. Therefore, prompting will help to decrease behaviors like non-compliance during teaching procedures. In that case, *least-to-most prompting* is used to teach various target skills and responses to children with ASD. It is a systematic way of teaching that begins with natural cues and subsequently leads to more intrusive prompts until the target behavior is exhibited (Ault & Griffen, 2013).

Aim of the study:

The present study aims to determine the effectiveness of interval DRL schedules and least-to-most prompting during the teaching process to reduce active non-compliance behavior of a child with ASD.

Operational Definition of the target behavior:

The target behavior for this study is *active non-compliance* that has been defined as:

"Refusal to follow simple commands/instructions/requests and forcefully get out of the seat while engaging in screaming and crying behavior".

Functional Behavioral Assessment

The Functional Behavioral Assessment (FBA) is an information gathering method to identify functions that underlie problem behavior and serve to maintain them across wide range. It assists in creating a specific hypothesis regarding the functions of target behavior and developing intervention plan to reduce those behaviors. In case of XY, FBA was conducted to determine the functions that the active non-compliance behavior is serving for her. Based on that, Behavioral intervention plan was constructed that best suits with her need and decreasing the rate of non-complying behavior.

During baseline observation, it was found that she often resists to comply with the therapist's instructions or request in the course of teaching procedures. She forcefully gets off from the seat even when the therapist asks her to sit and complete the given task first. It was also noticed that for the tasks that she finds uninteresting, repetitive, and challenging, she screams and/or cry excessively until the therapist let her escape (which usually happens after the problem behavior occur). She often pays less attention and not follow the directions during the activity which indicates that the problem behavior is about to occur. Moreover, she also gets fixated with the texture and shapes of activity material, such as animal puzzle (fish and bird). XY also displayed mouthing behavior (bubble blower, cup in the kitchen set, blocks) which often leads to non-compliance and avoidance of the task.

Her screaming and crying behavior followed by non-compliance with the therapists are exhibited at such high rates that lasts from few second to few minutes. However, letting her out of the seat and giving reinforcer calm her down. At most, the activities during teaching procedures in which XY showed non-compliance are: learning

fruits, colors, and animal names, shapes, swings and balance beam. Importantly, it was observed that active non-compliance is most likely to occur during speech and occupational therapy (ST & OT) session and least likely to occur during behavioral therapy (BT). Since, sensory activities are challenging for her and she fears to touch horse, she refuses to follow simple commands and screams to escape from the task.

Based on the information above, it can be suggested that modifying the tasks during teaching procedures, using least-to-most prompting, and using differential reinforcement to reduce the rate of non-compliance behavior at different intervals would be appropriate and effective.

Method

Subject and Target Behavior

The study subject is a six years old girl diagnosed with autism spectrum disorder. Her symptoms include lack of socialization skills, deficits in speech production, fixation, impulsivity, hypersensitivity, and lack of socio-emotional reciprocity. On the basis of her mother's and therapists' report, XY actively seeks to non-comply with the task at hand because of her need to escape and avoid that task. She forces herself onto the therapist, ST & OT in particular, to let herself out from the seat. Similarly, as observed during the baseline observation phase, the common problem behavior that occurred besides ASD symptomology, was non-compliance. She demonstrates lack of sitting tolerance and refusal to follow instructions given by therapist that leads to crying/screaming and off-seat behavior. For this purpose, active non-compliance was chosen as the target behavior with the aim to reduce its rate.

Acquiring of Consent

The researcher obtained permission from the relevant authorities at Pakistan Centre for Autism (PCA). The Director of PCA approved the permission letter (provided and approved by researcher's educational institute) that outlined all of the procedures, requirements, and standard guidelines (SOPs in Covid-19) to carry out the research. A verbal informed consent from the subject's mother was also acquired by the authorities and all the related queries were carefully addressed.

Study Setting

The present study was conducted at PCA, where the study subject was already under therapeutic services. For this study, all the arrangements and acquiring the permission to conduct the research was done beforehand. At PCA, children with disabilities receive therapeutic and individualized interventions required for improving socially significant behaviors, academics, cognitive abilities, speech, sensory issues, and other associated problems. There are separate therapy rooms designed to provide essential services to the children and engage them in various activities/tasks. Specifically, the rooms used for this study were behavioral therapy room, speech therapy room, and occupational therapy room. The days and timings for all the three phases of the study were consistent to avoid and control any intervening variables.

Phases of the Study

The present study was conducted in three phases: Pre-intervention (baseline), Intervention, and post-intervention.

1. ***Pre-intervention phase***

During the baseline period, the behavior of XY was thoroughly observed for 1.5 hour to determine the rate and intensity of problems behaviors and identifying the target behavior that requires modification. It is imperative to evaluate the behavior prior to the introduction of treatment procedures.

The observation phase was continued for 8 days, whereby the initial three days were assigned to collect data on problem behaviors by using ABC chart (Antecedent-Behavior-Consequence). The rest of the five days were allocated to create a baseline for the target behavior that was chosen from ABC chart as shown in Table 1.

Table 1. *ABC (Antecedent – Behavior – Consequence) Chart Form*

Date	Activity	Antecedent	Behavior	Consequence	Function
3/5/2021	Learning fruits name	Therapist gives her banana and asked the name of the fruit	Scream and walk around the room	Therapist gives her time to walk around.	Escape avoidance
	Doing animal puzzle	Presenting a horse piece and asking to say the name	Screaming & refuses to say the name.	Therapist puts it away.	Escape avoidance
4/5/2021	Learning shapes	Giving different shapes to sort	Screaming & forces to escape from the task	Therapist let her go to take a walk around.	Escape avoidance
	Fruits name	Therapist teaching her fruits name	Screams and not follow the command	Therapist shows her the 'quiet card'	Escape avoidance
	Animal puzzle	Presenting a horse piece and asked her to hold it.	Screaming & throws it away	Therapist gives her back to touch it.	Escape avoidance
7/5/2021	Shape sorting	Therapist asked her sort the shapes	Screams& forcefully get out from the seat.	Therapist let her go and gave bubble blower.	Escape avoidance
	Laying on the mattress	Therapist asked her to stand and start the work	Screams and refuses to stand up	Therapist physically takes her to the seat.	Escape avoidance
	Learning colors	Therapist asked her to fix the color puzzle and say the name	Screams and get out from the seat and not comply with it.	Therapist took her to the ball pool	Escape avoidance

The time sampling recording method was used for the baseline. In specific, partial intervals of 10 minutes were made to indicate whether the target behavior occurred at any point per time intervals. Based on XY's active non-compliance behavior, if it is exhibited, the experimenter would mark plus (+) in the specified time interval. Likewise, if no single instance has occurred during an interval, the experiment would mark minus (-) on the recording sheet. At the end of each observation day, the experimenter calculated the total incidences and percentage of the target behavior. It can be estimated by adding all the intervals in which the target behavior occurred, dividing it to the total time interval, and multiplying it by 100. The entire time for observation was 90 minutes with 10-minute interval, that makes a total of 9-time intervals per day. In addition to it, all of the reinforcer were identified and observed for which XY showed better responses to the current task.

Other than that, the psychological assessment of XY was also evaluated to identify her overall functioning and behavioral deficits that can assist in developing a valuable intervention plan. The Vineland Adaptive Behavioral Scale-II suggests that she falls within mild deficits range for communication, socialization, and daily living skills, whereas moderately low for motor skills. According to the Childhood Autism Rating Scale (CARS), XY lie in Mild to Moderate Autistic range of Autism. Further, Portage Early Education Program (PEEP) indicates that her average developmental age is 1 year & 7 months.

2. Intervention phase

After creating a baseline that indicates an average occurrence of the target behavior, Intervention phase began to introduce the planned treatment procedure for the behavior modification. In this phase, the experimenter implemented the procedures that are effective in reducing active non-compliance behavior of XY.

One of the procedures that was employed to reduce the target behavior was

Differential Reinforcement of Low rates behavior (DRL). Particularly, the schedule of Interval DRL was applied to provide reinforcements after every interval, if the behavior has occurred at low rates as compared to the previously. The whole session was divided in 10-minutes interval and the occurrence of target behavior was noted using the similar recording sheet, partial interval – time sampling method. For each interval that the behavior occurred at lower rate i.e., exhibiting sitting behavior and following the instructions, the child was reinforced with a short break, playing with preferable item, and social/verbal praise.

Apart from DRL, *least-to-most prompting* technique was implemented to increase the level of assistance when learning a challenging skill (one-piece puzzle, visual-perceptual activities, physical tasks, sorting & matching of fruits, animals and shapes, and fine motor enhancement tasks). The prompts began with natural cue and gradually moves up to partial or full physical support to complete the specific step of a task. However, the experimenter only provides the least-to-most intrusive prompts when the response is delayed or there is a behavioral indication that the task is difficult to accomplish. Each step is also verbally reinforced (singing a poem/praise) to keep the sessions and activities engaging.

The modification of therapy environment was also done to evaluate the change in problem behavior and conducting the session in both, small and big room, to identify spatial difference as a distracting factor in maintaining the escape condition for the target behavior.

3. Post Intervention phase

The phase was similar to the pre-intervention phase, where the experimenter passively observed the behavior of XY when the intervention procedures were no longer provided. This phase was lasted for five days to indicate the overall effectiveness of treatment program and to identify the reduction in the rate of the problem behavior. In correspond to the previous phase, the recording method was also partial interval – time sampling method. The occurrence and non-occurrence of the target behavior was recorded for each specified interval and the estimated percentage was calculated after each day of post-intervention phase.

Results

The data collected within each three phases of the study depicted following results:

1. Pre-intervention phase

The occurrence of active non-compliance behavior during this phase using time sampling method was calculated and shown in Table 2.

Table 2. *Findings of pre-intervention phase*

Days	$\frac{\text{Number of intervals the behavior occurred}}{\text{Total number of intervals}} \times 100$
1	88.8%
2	77.7%
3	88.8%
4	100%
5	88.8%
Mean	**88.82%**

It shows that the subject, on an average, was actively non-compliant for 88.82% of the total observation period.

The subject demonstrated active non-compliance behavior during most of the intervals in the baseline period as shown in Figure 1. Importantly, the function behind the target behavior was found to be escape and avoidance of the task at hand, while forcefully engaging in activities other than what has been asked of her. Also, the screaming/crying behavior in association with non-compliance of the provided instructions were solely targeted. However, sensory issues (ASD symptoms) that resemble the target behavior were ruled out and carefully observed to be marked

as minus (behavior not occurred). A major strength of the subject that was noticed was her receptive language skills, which indicated that she can understand simple commands and is able to follow it.

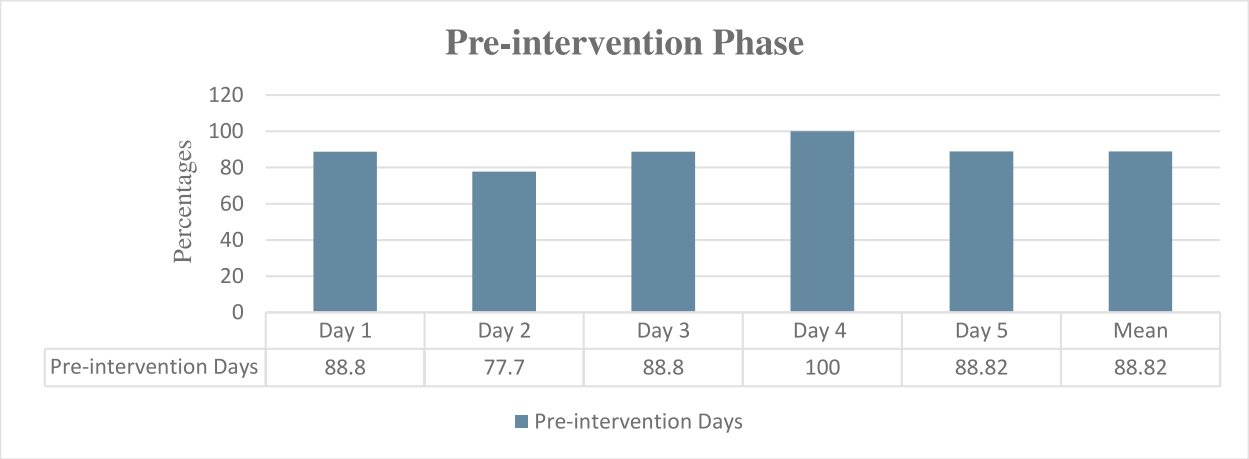

Figure 1. *Graphical Representation of Observation in Pre-Intervention Phase*

2. Intervention phase

The implementation of planned treatment provided following results shown in Table 3.

Table 3. *Findings of Intervention Phase*

Days	Number of intervals the behavior occurred / Total number of intervals x 100
1	44.4%
2	33.3%
3	55.5%
4	44.4%
5	22.2%
6	33.3%
Mean	**38.85%**

The application of two treatment procedures, DRL and least-to-most prompting, produced a prominent reduction in the active non-compliance behavior of the subject. The mean of percentages signifies that the target behavior was exhibited for 38.85% of the total time.

Three sessions were conducted in a large-spaced room (Day 1, 3, & 4), whereas rest of the three sessions took place in small-spaced room (Day 2, 5, & 6). The percentage estimation of the target behavior is slightly high (≥ 44.4%) in spacious room, while the small room provided the estimation at ≤ 33.3% for the active non-compliance behavior.

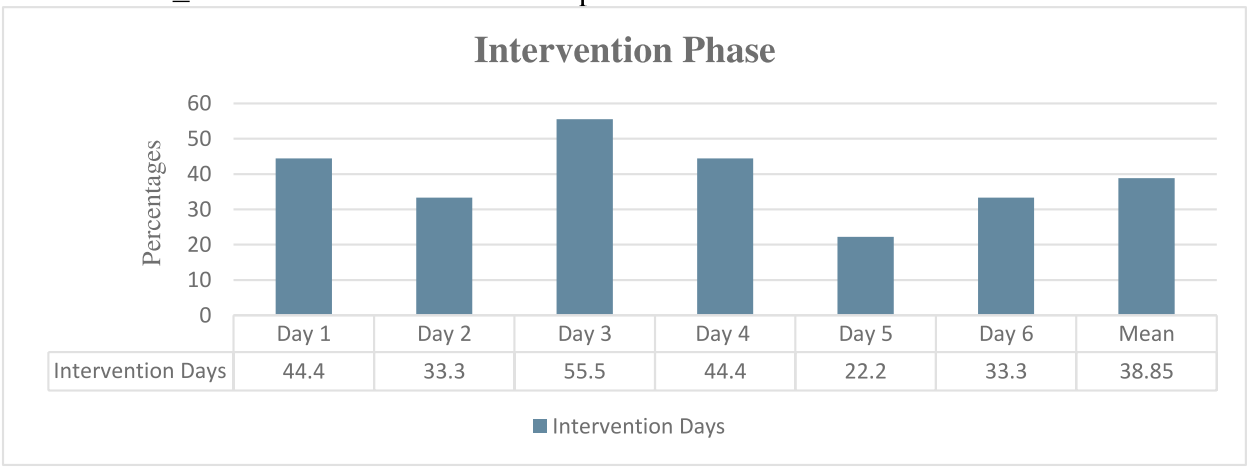

Figure 2. *Graphical Representation of Observation in Intervention Phase*

It also indicates that these interventions effectively lowered the rate of the overall occurrence of target behavior as depicted in Figure 2. It was also found that the subject responded to the instructions better when provided with the most-intrusive prompt, such as moving from gestural

to physical prompting. Similarly, associating the reinforcer with the completion of each step of a task along with prompting and short break after the occurrence of target behavior at low rate resulted in the enhanced learning and mastery of the skill.

3. Post-intervention phase

The observed estimation of the occurrence of target behavior during this phase is summarized in Table 4.

Table 4. *Findings of post-intervention phase*

Days	Number of intervals the behavior occurred / Total number of intervals x 100
1	66.6%
2	66.6%
3	44.4%
4	55.5%
5	77.7%
Mean	**63.16%**

It was revealed that the mean percentage of subject's active non-compliance behavior was 63.16% of the total observation time, also illustrated in Figure 3.

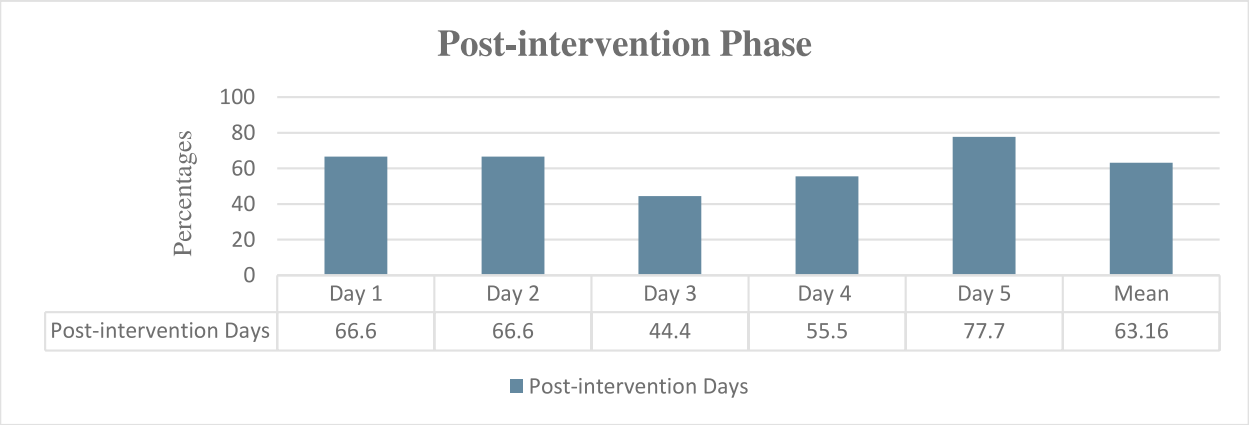

Figure 3. *Graphical Representation of Observation in Post-Intervention Phase*

It was appeared that the subject exhibited non-compliance behavior when the task was challenging and the prompts provided were least intrusive and the reinforcements were not readily provided to maintain and redirect her interest in the given task.

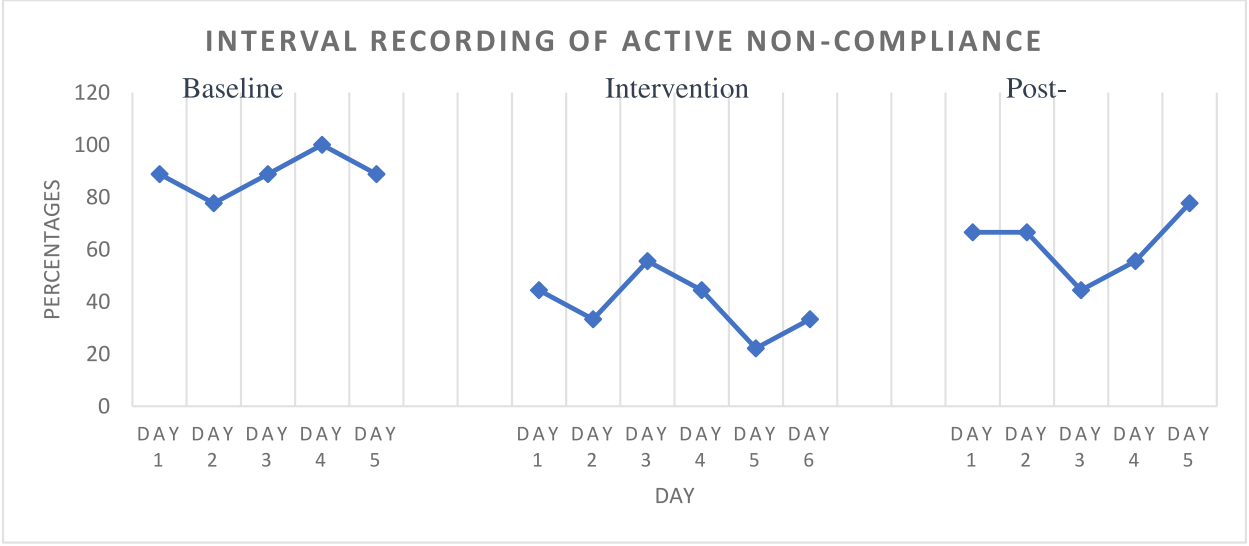

Figure 4. *Graphical Representation of Overall Results*

Figure 4. Indicates the variation observed in all three phases and that the treatment program effectively reduced the rate of active non-compliance behavior of the subject.

Discussion

To determine the function of active non-compliance behavior of an ASD child, and implementing applied behavior analysis (ABA) techniques to reduce the problem behavior, while measuring the effectiveness of such procedures was the purpose of the present study. Due to the occurrence of the target behavior at such high rate, with no particular beginning and end, interval recording method was utilized. Likewise, the present investigation was carried out through a various teaching process and applying Differential Reinforcement of low rate (DRL) and least-to-most prompting to decrease the rate of active non-compliance behavior.

During the baseline, Functional Behavior Assessment (FBA) was conducted to identify the functions of problem behavior, whereby it suggested that the subject exclusively engaged in the non-compliance behavior to escape/avoid the learning task. Thus, the result illustrated that the non-compliance behavior of the subject was observed on a peak and was maintained by escape condition. There might have various reasons behind such problematic behavior, including overwhelming task demands, difficulty attending to long tasks, and distractions in the therapeutic environment (Luke, 2017). In the present case, the novelty of instructions provided, distractibility, and the level of understanding required to complete a challenging task found to be associated with non-compliance and escape behavior. The finding is also in line with other studies that indicated instructions as an antecedent variable can be modified to control problem behavior of ASD child maintained by escape from the instructional activities (Butler & Luiselli, 2007; Geiger et al., 2010; Hong et al., 2018). Nonetheless, most other studies infer that non-compliance among ASD children are significantly maintained by attention condition (Daoulatian, 2014; Rodriguez et al., 2010).

Besides, an important factor observed during baseline was the subject's capability to receive the simple incoming instructions that elicited a correct response, until the commands become too demanding to be followed or the novelty of the task increases. Consequentially, the subject forces herself onto therapists (scream/cry) to escape from the task. In similar manner, Sigman et al. (1986) suggested that receptive language skills are limited in children with ASD to infer the meaning and understanding of indirect suggestions. Therefore, the instructions were kept basic and appropriate to the child's cognitive level during intervention phase.

The findings from the intervention phase clearly depicts the reduction in active non-compliance behavior of the subject, indicating the procedures of *DRL* and *least-to-most prompting* were efficacious to minimize the rate of occurrence. Also, the physical prompts resulted in a better response rate, while reinforcing the child on sitting behavior and complying with given task-related instructions lowered the exhibition of active non-compliance. The results are congruent with other studies that also demonstrated low rates of problem behavior, following the instructions, maintenance of responding, and generalization of response to the provided stimulus using DRL technique (Cuvo et al., 2010; Gadaire et al., 2017). Conversely, a study indicated that using differential reinforcement without prompting to elicit the response is a better approach to teach and enhance skill acquisition of children with autism (Karsten & Carr, 2009).

Similarly, during the implementation of treatment program, the therapy rooms were also modified and differences in the rate of occurrence corresponding to the space available were recorded. It was noticed that the subject was distracted from her work when someone move around the room and know the presence of mattress in the corner which she usually lay on after escaping from the task. Further, active non-compliance behavior was significantly higher in rooms that were bigger compared to the rooms which were only confined to two desks for teaching process. For this purpose, the subject found to be screaming and/or crying to escape from the ongoing activity. Consistent with this observation, research by Mostafa (2008) showed that visual distractions and larger space made available to autistic children are considerable opportunity to forcefully escape from the learning demands.

The fading of treatment procedures and observation of the target behavior occurred during post-intervention phase were slightly maintained to a lower rate as compared to baseline period. The results propound that DRL arrangements and most intrusive prompts found to be efficacious in the teaching process which led to the subject better learn the given task. In accordance with that, removal of DRL and using less intrusive prompts maintained the behavior at reduced rate. Although, the difference is not as much of a significance but the continuation of treatment program and generalization of responding to different setting can produce better outcome. It has been suggested that parental training program significantly reduces the non-compliance of children with behavioral issues (Kalb & Loeber, 2003). Also, consistency in the intervention approach used by the instructor across different context may yield desirable treatment outcome with improvements in socially appropriate behaviors (Finke et al., 2017).

Future research on evaluating different behavior modification technique for non-compliance behavior, using full-session DRL arrangements to assess its impact on the target behavior, and extending the current study in naturalistic environment with variations in tasks should be emphasized. Also, future work should also explore various assessment methods for analyzing the functions of non-compliance behavior and comparing it to the larger population of ASD children.

Conclusion

Overall, the study findings depict potential information about the efficacious use of DRL arrangements and least-to-most-prompting for reducing aberrant behaviors in ASD children. These strategies are viable to optimize teaching processes and maintain desirable behaviors, specifically in settings where non-compliant behaviors are exhibited exceedingly. The results also signify the importance of generalizing such ABA interventions for modifying behaviors through reinforcement contingencies across various social contexts. Although the response to these arrangements and prompts can vary amongst ASD children, maintaining compliant behaviors could be achieved with appropriate and continuous treatment procedures.

Limitations

A few limitations of the present study were also considered. First, the days allotted to each of the three phases were insufficient to bring behavioral improvements in the subject to a greater extent. Although, the results depicted an alteration and reduction in non-compliance behavior of the subject but continuation of treatment for few more days and gradual fading of those procedures would have given better results in the post-intervention phase. Similarly, data recording during pre & post-intervention phase were also limited to five days, which is another drawback of the study. On contrary, observing for 10-15 days would have provided a better estimation of the subject's non-compliance behavior. Secondly, there was no opportunity to conduct follow up sessions with the subject. Thus, the maintenance of non-compliance behavior at lower rates was not addressed.

Notably, one more limitation is that the study was solely carried out in the therapy rooms at special education setting. Due to that, the observation of occurrence of the target behavior in the naturalistic environment and the rate at which it was reduced are less likely to be generalized and were not recorded. Third, the subject was only observed thrice a week that created gaps in recording the baseline, treatment provision, and post-observation. The continuation in the observation days and application of treatment procedures can produced a greater reduction in the problem behavior. Lastly, the interventions were performed by a new applied behavior analyst practitioner, due to which identifying an appropriate behavior modification technique and effectively implementing them appeared to be challenging.

Recommendation

The adaptation of learning environment to prevent the subject from viable distractions and reduce problem behaviors is indispensable. Likewise, such environment can be created at home to enhance her strengths and improve her social, behavioral, and academic skills. Parental awareness and counseling are recommended to set realistic expectations for the child,

increase their understanding of child's behavioral issues, and engaging them in the development of individualized education plan (IEP) for the subject so that they can also monitor their child's progress over time. Further, accommodating the child in an organized and structured routine using visual schedules to increase her awareness regarding her environment is essential. Provision of instructions to evoke correct response, giving her extra time to respond, gradually decreasing prompt dependency, frequent breaks to regain energy and redirect her interest for the work, and giving her a choice board to simplify her decisions is recommended.

Declaration

Funding

No funding was available to conduct this study.

Conflict of Interest

No conflict of interest to declare.

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I would like to acknowledge Pakistan Center for Autism for allowing me to conduct this study and providing me with all necessary support, equipment, and materials required for this study.

Availability of data and material

Available on request.

Ethical Approval

The study was approved the faculty/ Department of Institute of Professional Psychology, Bahria University Karachi Campus ethical review committee (NO. 1PP/BU/2e)

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