

Model Comparison Analysis - Effect Consistency and Significance Changes

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2025-09-04

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Model Comparison: Effect Consistency Analysis

This analysis focuses on whether results, interpretations, and significance levels change when switching between different model specifications.

Load Required Libraries

```
library(lme4)           # For linear mixed effects models
library(lmerTest)       # For p-values in lmer
library(broom.mixed)    # For tidy model outputs
library(dplyr)          # For data manipulation
library(readr)          # For reading CSV files
library(knitr)          # For nice tables
library(ggplot2)        # For plotting
```

```
library(tidyr)      # For data reshaping
library(purrr)      # For functional programming
```

Load and Prepare Data

```
# Load both datasets
oa_data <- read_csv("/Volumes/YB_Drive/NavAging_Paper/data/oa_merged_results.csv")
ya_data <- read_csv("/Volumes/YB_Drive/NavAging_Paper/data/ya_merged_results.csv")

# Add Age group variable and combine datasets
oa_data$Age <- "OA"
ya_data$Age <- "YA"

# Remove the index column (first column) and combine
oa_data <- oa_data %>% select(-1)
ya_data <- ya_data %>% select(-1)

# Combine datasets
combined_data <- bind_rows(oa_data, ya_data)

# Convert categorical variables to factors
combined_data <- combined_data %>%
  mutate(
    Age = factor(Age, levels = c("YA", "OA")), # YA as reference level
    Target_Name = factor(Target_Name),
    Participant = factor(Participant),
    Block_Num = factor(Block_Num, levels = c("1", "2", "3")) # Block 1 as reference level
  )

# Define outcome variables
outcome_vars <- c("Total_Time", "Orientation_Time", "Navigation_Time",
                  "Distance", "Speed", "Mean_Dwell",
                  "Teleportations", "Mean_Teleport_Distance")

cat("Dataset prepared. Analyzing", length(outcome_vars), "outcome variables.\n")
```

```
## Dataset prepared. Analyzing 8 outcome variables.
```

Analysis Function for Effect Comparison

```
# Function to extract and compare effects across models
compare_model_effects <- function(dv_name, data) {

  # Define model formulas
  formula1 <- as.formula(paste(dv_name, "~ Age * Block_Num * Target_Name + (1|Participant)"))
  formula2 <- as.formula(paste(dv_name, "~ Age * Block_Num + (1|Target_Name) + (1|Participant)"))
  formula3 <- as.formula(paste(dv_name, "~ Age * Block_Num + (1|Participant)"))

  # Fit models
```

```

model1 <- lmer(formula1, data = data)
model2 <- lmer(formula2, data = data)
model3 <- lmer(formula3, data = data)

# Extract fixed effects for each model
effects1 <- broom.mixed::tidy(model1, effects = "fixed") %>%
  mutate(Model = "Model 1", DV = dv_name)
effects2 <- broom.mixed::tidy(model2, effects = "fixed") %>%
  mutate(Model = "Model 2", DV = dv_name)
effects3 <- broom.mixed::tidy(model3, effects = "fixed") %>%
  mutate(Model = "Model 3", DV = dv_name)

# Combine all effects
all_effects <- bind_rows(effects1, effects2, effects3) %>%
  mutate(
    significant = p.value < 0.05,
    effect_size_category = case_when(
      abs(estimate) < 0.2 ~ "Small",
      abs(estimate) < 0.5 ~ "Medium",
      TRUE ~ "Large"
    )
  )

return(all_effects)
}

# Function to identify effects that change across models
identify_effect_changes <- function(effects_df) {

  # Focus on key effects that appear in multiple models
  common_effects <- effects_df %>%
    group_by(DV, term) %>%
    summarise(n_models = n(), .groups = 'drop') %>%
    filter(n_models >= 2) %>%
    pull(term) %>%
    unique()

  # Analyze changes for common effects
  effect_changes <- effects_df %>%
    filter(term %in% common_effects) %>%
    group_by(DV, term) %>%
    summarise(
      n_models = n(),
      significance_changes = length(unique(significant)) > 1,
      min_p = min(p.value),
      max_p = max(p.value),
      p_value_range = max_p - min_p,
      min_estimate = min(estimate),
      max_estimate = max(estimate),
      estimate_range = max_estimate - min_estimate,
      estimate_sign_changes = (min_estimate < 0 & max_estimate > 0) | (min_estimate > 0 & max_estimate < 0),
      models_significant = paste(Model[significant], collapse = ", "),
      models_nonsignificant = paste(Model[!significant], collapse = ", ")
    )
}

```

```

    .groups = 'drop'
  ) %>%
  mutate(
    substantial_change = significance_changes | estimate_sign_changes | (estimate_range > abs(min_est.
  )

  return(effect_changes)
}

```

Run Analysis for All Outcome Variables

```

# Get effects for all outcome variables
all_effects_list <- map(outcome_vars, ~compare_model_effects(.x, combined_data))
names(all_effects_list) <- outcome_vars

# Combine all effects into one dataframe
all_effects_combined <- bind_rows(all_effects_list)

# Identify changes for each outcome variable
effect_changes_list <- map(all_effects_list, identify_effect_changes)
all_changes_combined <- bind_rows(effect_changes_list)

cat("Analysis completed for all outcome variables.\n")

```

```
## Analysis completed for all outcome variables.
```

Summary of Effect Consistency Across Models

```

# Overall summary of which effects are most stable across models
stability_summary <- all_changes_combined %>%
  group_by(term) %>%
  summarise(
    n_variables = n(),
    variables_with_sig_changes = sum(significance_changes),
    variables_with_sign_changes = sum(estimate_sign_changes),
    variables_with_substantial_changes = sum(substantial_change),
    prop_substantial_changes = variables_with_substantial_changes / n_variables,
    avg_p_range = mean(p_value_range, na.rm = TRUE),
    avg_estimate_range = mean(estimate_range, na.rm = TRUE),
    .groups = 'drop'
  ) %>%
  arrange(desc(prop_substantial_changes))

cat("Effect Stability Summary (sorted by most unstable):\n")

```

```
## Effect Stability Summary (sorted by most unstable):
```

```
kable(stability_summary, digits = 3)
```

term	n_variables	variables_with_significance	variables_with_no_significance	substantial_change	substantial_change	estimate_range
AgeOA:Block_Num2	2	2	1	8	1.000 0.221	15.616
AgeOA:Block_Num3	3	3	0	7	0.875 0.121	17.207
Block_Num3	8	4	0	7	0.875 0.137	15.740
(Intercept)	8	1	0	6	0.750 0.013	35.150
AgeOA	8	4	0	6	0.750 0.077	6.150
Block_Num2	8	4	0	6	0.750 0.157	12.075

Variables with Significance Changes

```
# Focus on cases where significance changes between models
sig_changes <- all_changes_combined %>%
  filter(significance_changes == TRUE) %>%
  select(DV, term, min_p, max_p, models_significant, models_nonsignificant) %>%
  arrange(DV, term)

cat("Effects that change significance across models:\n")
```

```
## Effects that change significance across models:
```

```
if(nrow(sig_changes) > 0) {
  kable(sig_changes, digits = 4)
} else {
  cat("No effects change significance across models.\n")
}
```

DV	term	min_p	max_p	models_significant	models_nonsignificant
Distance	AgeOA	0.0001	0.1305	Model 2, Model 3	Model 1
Distance	Block_Num2	0.0000	0.4099	Model 2, Model 3	Model 1
Distance	Block_Num3	0.0000	0.3662	Model 2, Model 3	Model 1
Mean_Teleport_Distance	AgeOA	0.0417	0.1540	Model 2, Model 3	Model 1
Mean_Teleport_Distance	AgeOA:Block_Num3	0.0019	0.5926	Model 2, Model 3	Model 1
Navigation_Time	AgeOA:Block_Num3	0.0039	0.0767	Model 2, Model 3	Model 1
Navigation_Time	Block_Num2	0.0000	0.1793	Model 2, Model 3	Model 1
Navigation_Time	Block_Num3	0.0000	0.1329	Model 2, Model 3	Model 1
Speed	AgeOA	0.0063	0.2755	Model 2, Model 3	Model 1
Speed	AgeOA:Block_Num2	0.0000	0.2378	Model 2, Model 3	Model 1
Speed	AgeOA:Block_Num3	0.0000	0.1853	Model 2, Model 3	Model 1
Teleportations	(Intercept)	0.0000	0.0664	Model 2, Model 3	Model 1
Teleportations	AgeOA	0.0000	0.1010	Model 2, Model 3	Model 1
Teleportations	Block_Num2	0.0003	0.5498	Model 2, Model 3	Model 1
Teleportations	Block_Num3	0.0000	0.5289	Model 2, Model 3	Model 1
Total_Time	AgeOA:Block_Num2	0.0373	0.0783	Model 2, Model 3	Model 1
Total_Time	Block_Num2	0.0000	0.1145	Model 2, Model 3	Model 1
Total_Time	Block_Num3	0.0000	0.0676	Model 2, Model 3	Model 1

Effects with Sign Changes

```
# Identify effects that change direction (sign) across models
sign_changes <- all_changes_combined %>%
  filter(estimate_sign_changes == TRUE) %>%
  select(DV, term, min_estimate, max_estimate) %>%
  arrange(DV, term)

cat("Effects that change direction (sign) across models:\n")
```

Effects that change direction (sign) across models:

```
if(nrow(sign_changes) > 0) {
  kable(sign_changes, digits = 4)
} else {
  cat("No effects change direction across models.\n")
}
```

DV	term	min_estimate	max_estimate
Mean_Teleport_Distance	AgeOA:Block_Num2	-0.1165	0.0082

Model-Specific Effects Analysis

```
# Identify effects that only appear in certain models
effects_by_model <- all_effects_combined %>%
  group_by(term) %>%
  summarise(
    models_present = paste(unique(Model), collapse = ", "),
    n_models = length(unique(Model)),
    variables_present = paste(unique(DV), collapse = ", "),
    n_variables = length(unique(DV)),
    .groups = 'drop'
  ) %>%
  arrange(n_models, term)

cat("Effects by model presence:\n")
```

Effects by model presence:

```
kable(effects_by_model, digits = 3)
```

term	models_present	n_models	variables_present	n_variables
AgeOA:Block_Num2:TaskNameBank	1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8

term	models_present	n_models	variables_present	n_variables
AgeOA:Block_Num2:Target_NameFire Station	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
AgeOA:Block_Num2:Target_NameHigh School	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
AgeOA:Block_Num2:Target_NamePawn Shop	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
AgeOA:Block_Num2:Target_NamePizzeria	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
AgeOA:Block_Num2:Target_NamePolice station	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
AgeOA:Block_Num2:Target_NameQuattroki Restaurant	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
AgeOA:Block_Num3:Target_NameBank	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
AgeOA:Block_Num3:Target_NameFire Station	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
AgeOA:Block_Num3:Target_NameHigh School	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
AgeOA:Block_Num3:Target_NamePawn Shop	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
AgeOA:Block_Num3:Target_NamePizzeria	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
AgeOA:Block_Num3:Target_NamePolice station	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
AgeOA:Block_Num3:Target_NameQuattroki Restaurant	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
AgeOA:Target_NameBank	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
AgeOA:Target_NameFire Station	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
AgeOA:Target_NameHigh School	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
AgeOA:Target_NamePawn Shop	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8

term	models_present	n_models	variables_present	n_variables
AgeOA:Target_NamePizzeria	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
AgeOA:Target_NamePolice station	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
AgeOA:Target_NameQuattro restaurant	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
Block_Num2:Target_NameBank	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
Block_Num2:Target_NameFire station	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
Block_Num2:Target_NameHigh School	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
Block_Num2:Target_NameLaw Shop	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
Block_Num2:Target_NamePizzeria	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
Block_Num2:Target_NamePolice station	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
Block_Num2:Target_NameQuattro restaurant	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
Block_Num3:Target_NameBank	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
Block_Num3:Target_NameFire station	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
Block_Num3:Target_NameHigh School	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
Block_Num3:Target_NameLaw Shop	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
Block_Num3:Target_NamePizzeria	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
Block_Num3:Target_NamePolice station	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
Block_Num3:Target_NameQuattro restaurant	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8

term	models_present	n_models	variables_present	n_variables
Target_NameBank	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
Target_NameFire Station	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
Target_NameHigh School	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
Target_NamePawn Shop	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
Target_NamePizzeria	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
Target_NamePolice station	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
Target_NameQuattroki Restaurant	Model 1	1	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
(Intercept)	Model 1, Model 2, Model 3	3	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
AgeOA	Model 1, Model 2, Model 3	3	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
AgeOA:Block_Num2	Model 1, Model 2, Model 3	3	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
AgeOA:Block_Num3	Model 1, Model 2, Model 3	3	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
Block_Num2	Model 1, Model 2, Model 3	3	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8
Block_Num3	Model 1, Model 2, Model 3	3	Total_Time, Orientation_Time, Navigation_Time, Distance, Speed, Mean_Dwell, Teleportations, Mean_Teleport_Distance	8

Detailed Comparison for Key Effects

```
# Focus on main effects and key interactions
key_terms <- c("AgeOA", "Block_Num2", "Block_Num3", "AgeOA:Block_Num2", "AgeOA:Block_Num3")

detailed_comparison <- all_effects_combined %>%
  filter(term %in% key_terms) %>%
  select(DV, Model, term, estimate, std.error, p.value, significant) %>%
  arrange(DV, term, Model)
```

```

# Create a wide format for easier comparison
comparison_wide <- detailed_comparison %>%
  pivot_wider(
    names_from = Model,
    values_from = c(estimate, p.value, significant),
    names_sep = "_"
  )

cat("Detailed comparison of key effects across models:\n")

```

```
## Detailed comparison of key effects across models:
```

```
kable(comparison_wide, digits = 4)
```

DV	term	std.error	estimate_Model1	estimate_Model2	estimate_Model3	pvalue_Model1	pvalue_Model2	pvalue_Model3	significant_Model1	significant_Model2	significant_Model3
Distance	AgeOA	94.491742.9828	NA	NA	0.1305	NA	NA	NA	FALSE	NA	NA
Distance	AgeOA	41.0960	NA	166.6921	NA	NA	0.0001	NA	NA	TRUE	NA
Distance	AgeOA	42.0994	NA	NA	166.6921	NA	NA	0.0001	NA	NA	TRUE
Distance	AgeOA:Block_Num2	108.8096	NA	NA	0.5695	NA	NA	NA	FALSE	NA	NA
		73.2785									
Distance	AgeOA:Block_Num2	16.4678	NA	-	NA	NA	0.7606	NA	NA	FALSE	NA
		14.0722									
Distance	AgeOA:Block_Num2	18.8047	NA	NA	-	NA	NA	0.7731	NA	NA	FALSE
		14.0722									
Distance	AgeOA:Block_Num3	108.8096	NA	NA	0.3802	NA	NA	NA	FALSE	NA	NA
		113.0779									
Distance	AgeOA:Block_Num3	16.4678	NA	-	NA	NA	0.3097	NA	NA	FALSE	NA
		46.9149									
Distance	AgeOA:Block_Num3	18.8047	NA	NA	-	NA	NA	0.3366	NA	NA	FALSE
		46.9149									
Distance	Block_Num2	91.0821	-	NA	NA	0.4099	NA	NA	FALSE	NA	NA
		75.0795									
Distance	Block_Num2	82.3456	NA	-	NA	NA	0.0000	NA	NA	TRUE	NA
		142.6159									
Distance	Block_Num2	84.2101	NA	NA	-	NA	NA	0.0000	NA	NA	TRUE
		142.6159									
Distance	Block_Num3	91.0821	-	NA	NA	0.3662	NA	NA	FALSE	NA	NA
		82.3342									
Distance	Block_Num3	82.3456	NA	-	NA	NA	0.0000	NA	NA	TRUE	NA
		168.3485									
Distance	Block_Num3	84.2101	NA	NA	-	NA	NA	0.0000	NA	NA	TRUE
		168.3485									
Mean_Dwell	AgeOA	0.16141.1264	NA	NA	0.0000	NA	NA	NA	TRUE	NA	NA
Mean_Dwell	AgeOA	0.1062	NA	0.4056	NA	NA	0.0003	NA	NA	TRUE	NA
Mean_Dwell	AgeOA	0.1076	NA	NA	0.4056	NA	NA	0.0003	NA	NA	TRUE
Mean_Dwell	AgeOA:Block_Num2	108.8096	NA	NA	0.0004	NA	NA	NA	TRUE	NA	NA
		0.6567									
Mean_Dwell	AgeOA:Block_Num2	10.702	NA	-	NA	NA	0.0250	NA	NA	TRUE	NA
		0.1574									

DV	term	std.error	estimate	Model_1	Model_2	Model_3	Model_1	Model_2	Model_3	Model_1	Model_2	Model_3
Mean_Dwell	AgeOA:Block1	0.763	NA	NA	-	NA	NA	0.0392	NA	NA	TRUE	
Mean_Dwell	AgeOA:Block3	0.851	NA	NA	0.1574	NA	NA	0.0000	NA	NA	TRUE	NA
Mean_Dwell	AgeOA:Block2	0.702	NA	-	NA	NA	0.0020	NA	NA	TRUE	NA	
Mean_Dwell	AgeOA:Block1	0.763	NA	NA	-	NA	NA	0.0045	NA	NA	TRUE	
Mean_Dwell	Block_Num1	1.209	-	NA	NA	0.0000	NA	NA	TRUE	NA	NA	
Mean_Dwell	Block_Num2	0.426	NA	-	NA	NA	0.0000	NA	NA	TRUE	NA	
Mean_Dwell	Block_Num3	0.539	NA	NA	-	NA	NA	0.0000	NA	NA	TRUE	
Mean_Dwell	Block_Num1	1.309	-	NA	NA	0.0000	NA	NA	TRUE	NA	NA	
Mean_Dwell	Block_Num2	0.496	NA	-	NA	NA	0.0000	NA	NA	TRUE	NA	
Mean_Dwell	Block_Num3	0.539	NA	NA	-	NA	NA	0.0000	NA	NA	TRUE	
Mean_Telegraph	AgeOA:Dis1	0.238	-	NA	NA	0.1540	NA	NA	FALSE	NA	NA	
Mean_Telegraph	AgeOA:Dis2	0.205	NA	-	NA	NA	0.0417	NA	NA	TRUE	NA	
Mean_Telegraph	AgeOA:Dis3	0.205	NA	NA	-	NA	NA	0.0419	NA	NA	TRUE	
Mean_Telegraph	AgeOA:Dis1	0.238	-	NA	NA	0.9644	NA	NA	FALSE	NA	NA	
Mean_Telegraph	AgeOA:Dis2	0.205	NA	-	NA	NA	0.0826	NA	NA	FALSE	NA	
Mean_Telegraph	AgeOA:Dis3	0.205	NA	NA	-	NA	NA	0.0934	NA	NA	FALSE	
Mean_Telegraph	AgeOA:Dis1	0.238	-	NA	NA	0.5926	NA	NA	FALSE	NA	NA	
Mean_Telegraph	AgeOA:Dis2	0.205	NA	-	NA	NA	0.0019	NA	NA	TRUE	NA	
Mean_Telegraph	AgeOA:Dis3	0.205	NA	NA	-	NA	NA	0.0027	NA	NA	TRUE	
Mean_Telegraph	Block_DNum1	0.616	-	NA	NA	0.0000	NA	NA	TRUE	NA	NA	
Mean_Telegraph	Block_DNum2	0.474	NA	-	NA	NA	0.0000	NA	NA	TRUE	NA	
Mean_Telegraph	Block_DNum3	0.491	NA	NA	-	NA	NA	0.0000	NA	NA	TRUE	
Mean_Telegraph	Block_DNum1	0.616	-	NA	NA	0.0000	NA	NA	TRUE	NA	NA	
Mean_Telegraph	Block_DNum2	0.474	NA	-	NA	NA	0.0000	NA	NA	TRUE	NA	
Mean_Telegraph	Block_DNum3	0.491	NA	NA	-	NA	NA	0.0000	NA	NA	TRUE	
Navigation_AgeOA	AgeOA	17.9749	1.7207	NA	NA	0.0041	NA	NA	TRUE	NA	NA	
Navigation_AgeOA	AgeOA	7.9621	NA	52.4274	NA	NA	0.0000	NA	NA	TRUE	NA	

DV	term	std.error	estimate	Model_1	Model_2	Model_3	Model_1	Model_2	Model_3	Model_1	Model_2	Model_3
Navigation_Angle	Block1	8.0879	NA	NA	52.4274	NA	NA	0.0000	NA	NA	TRUE	NA
Navigation_Angle	Block2	14.4022	Num2	NA	NA	0.1834	NA	NA	FALSE	NA	NA	NA
Navigation_Angle	Block3	32.4801	Num3	-	NA	NA	0.0648	NA	NA	FALSE	NA	NA
Navigation_Angle	Block4	16.2043	Num4	NA	-	NA	NA	0.0754	NA	NA	FALSE	NA
Navigation_Angle	Block5	16.2043	Num5	NA	NA	0.0767	NA	NA	FALSE	NA	NA	NA
Navigation_Angle	Block6	43.2255	Num6	-	NA	NA	0.0039	NA	NA	TRUE	NA	NA
Navigation_Angle	Block7	25.3262	Num7	NA	-	NA	NA	0.0055	NA	NA	TRUE	NA
Navigation_Angle	Block8	25.3262	Num8	NA	NA	0.1793	NA	NA	FALSE	NA	NA	NA
Navigation_Angle	Block9	23.1830	Num9	-	NA	NA	0.0000	NA	NA	TRUE	NA	NA
Navigation_Angle	Block10	30.6758	Num10	NA	-	NA	NA	0.0000	NA	NA	TRUE	NA
Navigation_Angle	Block11	30.6758	Num11	NA	NA	0.1329	NA	NA	FALSE	NA	NA	NA
Navigation_Angle	Block12	25.9447	Num12	-	NA	NA	0.0000	NA	NA	TRUE	NA	NA
Navigation_Angle	Block13	36.3415	Num13	NA	-	NA	NA	0.0000	NA	NA	TRUE	NA
Orientation_Angle	Block14	1.3348	14.2142	NA	NA	0.0000	NA	NA	TRUE	NA	NA	NA
Orientation_Angle	Block15	0.6253	NA	4.9035	NA	NA	0.0000	NA	NA	TRUE	NA	NA
Orientation_Angle	Block16	0.6317	NA	NA	4.9049	NA	NA	0.0000	NA	NA	TRUE	NA
Orientation_Angle	Block17	10.7866	Num2	NA	NA	0.0000	NA	NA	TRUE	NA	NA	NA
Orientation_Angle	Block18	2.2361	Num3	-	NA	NA	0.0009	NA	NA	TRUE	NA	NA
Orientation_Angle	Block19	2.2375	Num4	NA	-	NA	NA	0.0012	NA	NA	TRUE	NA
Orientation_Angle	Block20	11.2978	Num5	NA	NA	0.0000	NA	NA	TRUE	NA	NA	NA
Orientation_Angle	Block21	2.9230	Num6	-	NA	NA	0.0000	NA	NA	TRUE	NA	NA
Orientation_Angle	Block22	2.9245	Num7	NA	-	NA	NA	0.0000	NA	NA	TRUE	NA
Orientation_Angle	Block23	4.2361	Num8	NA	NA	0.0009	NA	NA	TRUE	NA	NA	NA
Orientation_Angle	Block24	2.0432	Num9	-	NA	NA	0.0000	NA	NA	TRUE	NA	NA
Orientation_Angle	Block25	2.0432	Num10	NA	-	NA	NA	0.0000	NA	NA	TRUE	NA
Orientation_Angle	Block26	5.8141	Num11	NA	NA	0.0000	NA	NA	TRUE	NA	NA	NA
Orientation_Angle	Block27	2.5742	Num12	-	NA	NA	0.0000	NA	NA	TRUE	NA	NA
Orientation_Angle	Block28	2.5742	Num13	NA	-	NA	NA	0.0000	NA	NA	TRUE	NA

DV	term	std.error	estimate	Model_1	Model_2	Model_3	Model_1	Model_2	Model_3	Model_1	Model_2	Model_3
Speed	AgeOA	1.3653	-	NA	NA	0.2755	NA	NA	FALSE	NA	NA	NA
Speed	AgeOA	0.9058	1.4912	NA	NA	NA	0.0063	NA	NA	TRUE	NA	NA
Speed	AgeOA	0.9342	2.5465	NA	NA	NA	NA	0.0078	NA	NA	TRUE	TRUE
Speed	AgeOA:Block_1	1.479	2.5465	NA	NA	0.2378	NA	NA	FALSE	NA	NA	NA
Speed	AgeOA:Block_2	1.8283	2.7967	NA	NA	0.0000	NA	NA	TRUE	NA	NA	NA
Speed	AgeOA:Block_3	1.6859	2.7967	NA	NA	0.0000	NA	NA	NA	NA	TRUE	TRUE
Speed	AgeOA:Block_4	1.479	2.7967	NA	NA	0.1853	NA	NA	FALSE	NA	NA	NA
Speed	AgeOA:Block_5	1.602	4.2191	NA	NA	0.0000	NA	NA	TRUE	NA	NA	NA
Speed	AgeOA:Block_6	1.6859	4.2191	NA	NA	0.0000	NA	NA	NA	NA	TRUE	TRUE
Speed	Block_Num1	0.2464	4.3101	NA	NA	0.0001	NA	NA	TRUE	NA	NA	NA
Speed	Block_Num2	0.3261	4.9339	NA	NA	0.0000	NA	NA	TRUE	NA	NA	NA
Speed	Block_Num3	0.4250	4.9339	NA	NA	0.0000	NA	NA	NA	NA	TRUE	TRUE
Speed	Block_Num4	0.3466	7.913	NA	NA	0.0000	NA	NA	TRUE	NA	NA	NA
Speed	Block_Num5	0.3361	8.3837	NA	NA	0.0000	NA	NA	TRUE	NA	TRUE	NA
Speed	Block_Num6	0.4350	8.3837	NA	NA	0.0000	NA	0.0000	NA	NA	TRUE	TRUE
Teleportation	AgeOA	18.7256	60.7333	NA	NA	0.1010	NA	NA	FALSE	NA	NA	NA
Teleportation	AgeOA	8.4503	35.6917	NA	NA	0.0000	NA	NA	TRUE	NA	NA	NA
Teleportation	AgeOA	8.5852	35.6917	NA	NA	0.0001	NA	NA	NA	NA	TRUE	TRUE
Teleportation	AgeOA:Block_1	15.2955	17.6667	NA	NA	0.4850	NA	NA	FALSE	NA	NA	NA
Teleportation	AgeOA:Block_2	10.598	3.2375	NA	NA	0.7209	NA	NA	FALSE	NA	NA	NA
Teleportation	AgeOA:Block_3	14.326	3.2375	NA	NA	0.7315	NA	NA	NA	NA	FALSE	FALSE
Teleportation	AgeOA:Block_4	15.2955	3.2375	NA	NA	0.3251	NA	NA	FALSE	NA	NA	NA
Teleportation	AgeOA:Block_5	10.598	8.9083	NA	NA	0.3256	NA	NA	FALSE	NA	NA	NA
Teleportation	AgeOA:Block_6	14.326	8.9083	NA	NA	0.3451	NA	NA	NA	NA	FALSE	FALSE
Teleportation	Block_Num1	7.2866	10.7000	NA	NA	0.5498	NA	NA	FALSE	NA	NA	NA
Teleportation	Block_Num2	6.4062	23.2500	NA	NA	0.0003	NA	NA	TRUE	NA	NA	NA
Teleportation	Block_Num3	6.6098	23.2500	NA	NA	0.0005	NA	NA	NA	NA	TRUE	TRUE
Teleportation	Block_Num4	7.2866	11.2667	NA	NA	0.5289	NA	NA	FALSE	NA	NA	NA
Teleportation	Block_Num5	6.4062	27.5208	NA	NA	0.0000	NA	NA	TRUE	NA	NA	NA
Teleportation	Block_Num6	6.6098	27.5208	NA	NA	0.0000	NA	NA	NA	NA	TRUE	TRUE

DV	term	std.error	estimate_Model1	estimate_Model2	estimate_Model3	pvalue_Model1	pvalue_Model2	pvalue_Model3	Model1_Significant	Model2_Significant	Model3_Significant
Total_Time	AgeOA	18.17985.9350	NA	NA	0.0003	NA	NA	NA	TRUE	NA	NA
Total_Time	AgeOA	8.2233	NA	57.2813	NA	0.0000	NA	NA	NA	TRUE	NA
Total_Time	AgeOA	8.3399	NA	NA	57.2813	NA	NA	0.0000	NA	NA	TRUE
Total_Time	AgeOA:Block1	44.5520	NA	NA	0.0783	NA	NA	NA	FALSE	NA	NA
		43.2667									
Total_Time	AgeOA:Block2	18.8249	NA	-	NA	0.0373	NA	NA	NA	TRUE	NA
		18.3907									
Total_Time	AgeOA:Block3	14.4730	NA	-	NA	0.0446	NA	NA	NA	NA	TRUE
		18.3907									
Total_Time	AgeOA:Block4	14.5520	NA	NA	0.0265	NA	NA	NA	TRUE	NA	NA
		54.5233									
Total_Time	AgeOA:Block5	18.8249	NA	-	NA	0.0014	NA	NA	NA	TRUE	NA
		28.1996									
Total_Time	AgeOA:Block6	14.4730	NA	-	NA	0.0021	NA	NA	NA	NA	TRUE
		28.1996									
Total_Time	Block_Num1	17.3609	-	NA	0.1145	NA	NA	NA	FALSE	NA	NA
		27.4190									
Total_Time	Block_Num2	6.2202	NA	-	NA	0.0000	NA	NA	NA	TRUE	NA
		32.7190									
Total_Time	Block_Num3	6.4681	NA	NA	-	NA	NA	0.0000	NA	NA	TRUE
		32.7190									
Total_Time	Block_Num4	17.3609	-	NA	0.0676	NA	NA	NA	FALSE	NA	NA
		31.7588									
Total_Time	Block_Num5	6.2202	NA	-	NA	0.0000	NA	NA	NA	TRUE	NA
		38.9157									
Total_Time	Block_Num6	6.4681	NA	NA	-	NA	NA	0.0000	NA	NA	TRUE
		38.9157									

Visualization of Effect Consistency

```
# Plot showing how estimates change across models for key effects
if(nrow(detailed_comparison) > 0) {

  # Age effects plot
  age_effects <- detailed_comparison %>%
    filter(term == "AgeOA")

  if(nrow(age_effects) > 0) {
    age_plot <- ggplot(age_effects, aes(x = Model, y = estimate, color = significant)) +
      geom_point(size = 3) +
      geom_line(aes(group = DV), alpha = 0.5) +
      geom_hline(yintercept = 0, linetype = "dashed", color = "gray") +
      facet_wrap(~DV, scales = "free_y", ncol = 4) +
      scale_color_manual(values = c("TRUE" = "red", "FALSE" = "black")) +
      labs(
        title = "Age Effect Consistency Across Models",
        subtitle = "Lines connect the same variable across models",
        y = "Effect Size (Beta Coefficient)",
        x = "Model",

```

```

    color = "Significant"
  ) +
  theme_minimal() +
  theme(axis.text.x = element_text(angle = 45, hjust = 1))

print(age_plot)
}

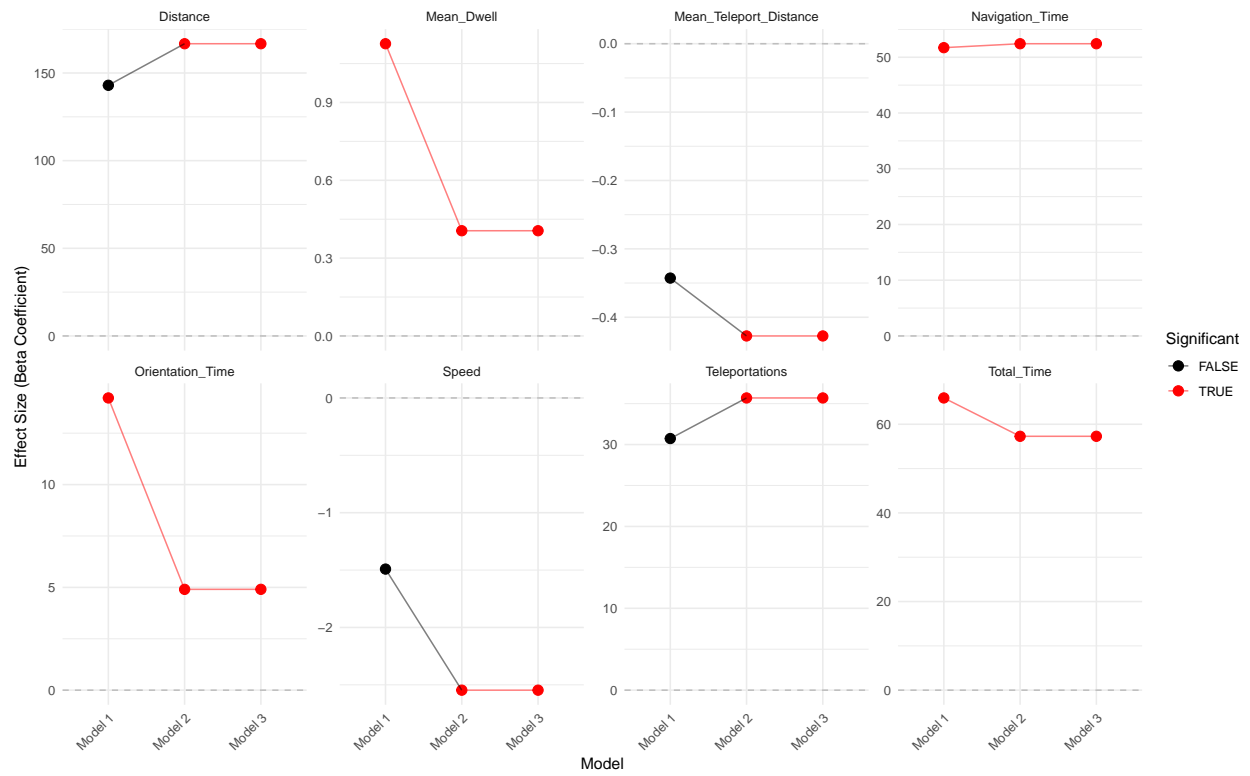
# Block effects plot (Block 2 vs Block 1)
block2_effects <- detailed_comparison %>%
  filter(term == "Block_Num2")

if(nrow(block2_effects) > 0) {
  block_plot <- ggplot(block2_effects, aes(x = Model, y = estimate, color = significant)) +
    geom_point(size = 3) +
    geom_line(aes(group = DV), alpha = 0.5) +
    geom_hline(yintercept = 0, linetype = "dashed", color = "gray") +
    facet_wrap(~DV, scales = "free_y", ncol = 4) +
    scale_color_manual(values = c("TRUE" = "red", "FALSE" = "black")) +
    labs(
      title = "Block 2 Effect Consistency Across Models",
      subtitle = "Lines connect the same variable across models",
      y = "Effect Size (Beta Coefficient)",
      x = "Model",
      color = "Significant"
    ) +
    theme_minimal() +
    theme(axis.text.x = element_text(angle = 45, hjust = 1))

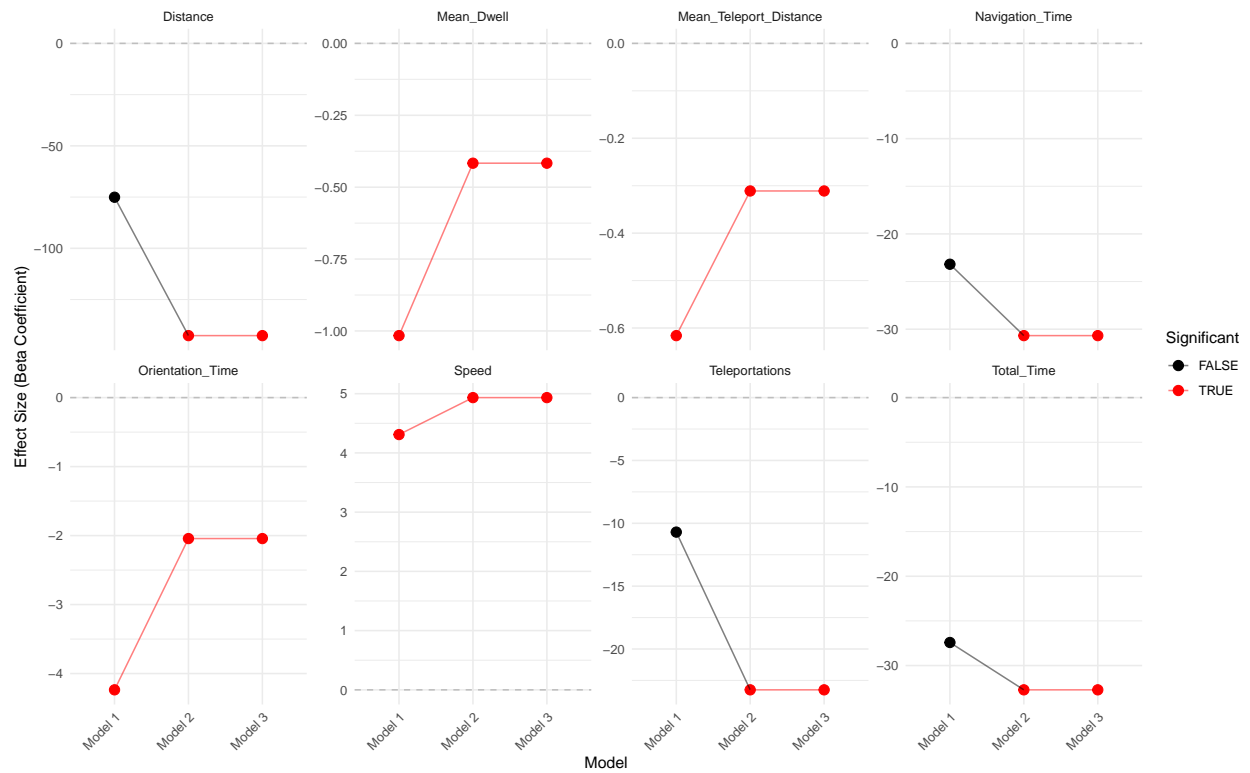
  print(block_plot)
}
}

```

Age Effect Consistency Across Models
Lines connect the same variable across models



Block 2 Effect Consistency Across Models
Lines connect the same variable across models



Interaction Effects Analysis

```
# Focus on interaction effects and how they vary across models
interaction_effects <- all_effects_combined %>%
  filter(grepl(":", term)) %>% # Interaction terms contain ":"
  group_by(DV, term) %>%
  summarise(
    n_models_present = n(),
    models_present = paste(Model, collapse = ", "),
    significant_in_models = paste(Model[significant], collapse = ", "),
    min_p = min(p.value),
    max_p = max(p.value),
    min_estimate = min(estimate),
    max_estimate = max(estimate),
    .groups = 'drop'
  ) %>%
  arrange(DV, term)

cat("Interaction effects across models:\n")
```

```
## Interaction effects across models:
```

```
kable(interaction_effects, digits = 4)
```

DV	term	n_models_present	models_present	significant_in_models	min_p	max_p	min_estimate	max_estimate
Distance	AgeOA:Block_Num2	3	Model 1, Model 2, Model 3		0.5695	0.7731	-	-
						73.2785	14.0722	
Distance	AgeOA:Block_Num2:Target_NameBlock	1	Model 1		0.9454	0.9454	-	-
							12.4690	12.4690
Distance	AgeOA:Block_Num2:Target_NameEve	1	Model 1		0.1769	0.1769	246.1207	246.1207
Distance	AgeOA:Block_Num2:Target_NameHigh	1	Model 1		0.7302	0.7302	62.8307	62.8307
Distance	AgeOA:Block_Num2:Target_NameSchool	1	Model 1		0.7302	0.7302	62.8307	62.8307
Distance	AgeOA:Block_Num2:Target_NameShop	1	Model 1		0.9454	0.9454	12.4849	12.4849
Distance	AgeOA:Block_Num2:Target_NameTokio	1	Model 1		0.8085	0.8085	44.1634	44.1634
Distance	AgeOA:Block_Num2:Target_Nameblock	1	Model 1		0.7507	0.7507	57.8983	57.8983
Distance	AgeOA:Block_Num2:Target_NameQuadr	1	Model 1		0.7311	0.7311	62.6217	62.6217
Distance	AgeOA:Block_Num2:Target_NameRestaurant	1	Model 1		0.7311	0.7311	62.6217	62.6217
Distance	AgeOA:Block_Num3	3	Model 1, Model 2, Model 3		0.3097	0.3802	-	-
							113.0779	46.9149
Distance	AgeOA:Block_Num3:Target_NameBlock	1	Model 1		0.4124	0.4124	149.3606	149.3606
Distance	AgeOA:Block_Num3:Target_NameEve	1	Model 1		0.2930	0.2930	191.6352	191.6352
Distance	AgeOA:Block_Num3:Target_NameHigh	1	Model 1		0.7908	0.7908	-	-
							48.3260	48.3260
Distance	AgeOA:Block_Num3:Target_NameSchool	1	Model 1		0.7594	0.7594	55.7930	55.7930
Distance	AgeOA:Block_Num3:Target_NameShop	1	Model 1		0.7594	0.7594	55.7930	55.7930

DV	term	n_models	models	present	significant_in	models	max	min	estimate	estimate
Distance	AgeOA:Block_Num3:Target_NamePizzeria	1	Model 1			0.8849	0.8849	26.3840	26.3840	
Distance	AgeOA:Block_Num3:Target_NamePolice station	1	Model 1			0.5825	0.5825	100.1711	100.1711	
Distance	AgeOA:Block_Num3:Target_NameQuattroki Restaurant	1	Model 1			0.7657	0.7657	54.2859	54.2859	
Distance	AgeOA:Target_NameBank	1	Model 1			0.2451	0.2451	149.7894	149.7894	
Distance	AgeOA:Target_NameFire Station	1	Model 1			0.2012	0.2012	-	-	
Distance	AgeOA:Target_NameHigh School	1	Model 1			0.8664	0.8664	21.6808	21.6808	
Distance	AgeOA:Target_NamePawn Shop	1	Model 1			0.8628	0.8628	22.2703	22.2703	
Distance	AgeOA:Target_NamePizzeria	1	Model 1			0.6876	0.6876	-	-	
Distance	AgeOA:Target_NamePolice station	1	Model 1			0.9896	0.9896	-	-	
Distance	AgeOA:Target_NameQuattroki Restaurant	1	Model 1			0.0966	0.0966	214.1552	214.1552	
Distance	Block_Num2:Target_NameBank	1	Model 1			0.1709	0.1709	-	-	
Distance	Block_Num2:Target_NameFire Station	1	Model 1			0.7753	0.7753	-	-	
Distance	Block_Num2:Target_NameHigh School	1	Model 1			0.7163	0.7163	46.8195	46.8195	
Distance	Block_Num2:Target_NamePawn Shop	1	Model 1			0.9817	0.9817	-	-	
Distance	Block_Num2:Target_NamePizzeria	1	Model 1			0.9613	0.9613	-	-	
Distance	Block_Num2:Target_NamePolice station	1	Model 1			0.8833	0.8833	-	-	
Distance	Block_Num2:Target_NameQuattroki Restaurant	1	Model 1		Model 1	0.0074	0.0074	-	-	
Distance	Block_Num3:Target_NameBank	1	Model 1		Model 1	0.0290	0.0290	-	-	
Distance	Block_Num3:Target_NameFire Station	1	Model 1			0.6797	0.6797	-	-	
Distance	Block_Num3:Target_NameHigh School	1	Model 1			0.7282	0.7282	44.7804	44.7804	
Distance	Block_Num3:Target_NamePawn Shop	1	Model 1			0.8186	0.8186	-	-	
Distance	Block_Num3:Target_NamePizzeria	1	Model 1			0.9319	0.9319	11.0143	11.0143	
Distance	Block_Num3:Target_NamePolice station	1	Model 1			0.6882	0.6882	-	-	
Distance	Block_Num3:Target_NameQuattroki Restaurant	1	Model 1		Model 1	0.0110	0.0110	-	-	
Mean_Dwell	AgeOA:Block_Num2	3	Model 1, Model 2, Model 3		Model 1, Model 2, Model 3	0.0004	0.0392	-	-	
Mean_Dwell	AgeOA:Block_Num2:Target_NameBank	1	Model 1		Model 1	0.0102	0.0102	0.6735	0.6735	
Mean_Dwell	AgeOA:Block_Num2:Target_NameFire Station	1	Model 1			0.1822	0.1822	0.3493	0.3493	

DV	term	n_models	models	present	significant_in_models	max	min	estimate	estimate
Mean_Dwell	AgeOA:Block_Num2:Target_NameHigh School	1	Model 1	Model 1	Model 1	0.01330	0.01330	0.6488	0.6488
Mean_Dwell	AgeOA:Block_Num2:Target_NamePawn Shop	1	Model 1	Model 1	Model 1	0.03270	0.03270	0.5594	0.5594
Mean_Dwell	AgeOA:Block_Num2:Target_NamePizzeria	1	Model 1	Model 1	Model 1	0.00840	0.00840	0.6903	0.6903
Mean_Dwell	AgeOA:Block_Num2:Target_NamePolice station	1	Model 1	Model 1	Model 1	0.10920	0.10920	0.4195	0.4195
Mean_Dwell	AgeOA:Block_Num2:Target_NameQuattroki Restaurant	1	Model 1	Model 1	Model 1	0.01270	0.01270	0.6530	0.6530
Mean_Dwell	AgeOA:Block_Num3	3	Model 1, Model 2, Model 3	Model 1, Model 2, Model 3	Model 1, Model 2, Model 3	0.00000	0.0045	-	-
Mean_Dwell	AgeOA:Block_Num3:Target_NameBank	1	Model 1	Model 1	Model 1	0.00450	0.00450	0.7443	0.7443
Mean_Dwell	AgeOA:Block_Num3:Target_NameFire Station	1	Model 1	Model 1	Model 1	0.05260	0.05260	0.5077	0.5077
Mean_Dwell	AgeOA:Block_Num3:Target_NameHigh School	1	Model 1	Model 1	Model 1	0.00300	0.00300	0.7789	0.7789
Mean_Dwell	AgeOA:Block_Num3:Target_NamePawn Shop	1	Model 1	Model 1	Model 1	0.00800	0.00800	0.6951	0.6951
Mean_Dwell	AgeOA:Block_Num3:Target_NamePizzeria	1	Model 1	Model 1	Model 1	0.00060	0.00060	0.9024	0.9024
Mean_Dwell	AgeOA:Block_Num3:Target_NamePolice station	1	Model 1	Model 1	Model 1	0.02650	0.02650	0.5813	0.5813
Mean_Dwell	AgeOA:Block_Num3:Target_NameQuattroki Restaurant	1	Model 1	Model 1	Model 1	0.00200	0.00200	0.8094	0.8094
Mean_Dwell	AgeOA:Target_NameBank	1	Model 1	Model 1	Model 1	0.00000	0.0000	-	-
Mean_Dwell	AgeOA:Target_NameFire Station	1	Model 1	Model 1	Model 1	0.00210	0.0021	-	-
Mean_Dwell	AgeOA:Target_NameHigh School	1	Model 1	Model 1	Model 1	0.00000	0.0000	-	-
Mean_Dwell	AgeOA:Target_NamePawn Shop	1	Model 1	Model 1	Model 1	0.00000	0.0000	-	-
Mean_Dwell	AgeOA:Target_NamePizzeria	1	Model 1	Model 1	Model 1	0.00000	0.0000	-	-
Mean_Dwell	AgeOA:Target_NamePolice station	1	Model 1	Model 1	Model 1	0.00010	0.0001	-	-
Mean_Dwell	AgeOA:Target_NameQuattroki Restaurant	1	Model 1	Model 1	Model 1	0.00000	0.0000	-	-
Mean_Dwell	Block_Num2:Target_NameBank	1	Model 1	Model 1	Model 1	0.00090	0.00090	0.6136	0.6136
Mean_Dwell	Block_Num2:Target_NameFire Station	1	Model 1	Model 1	Model 1	0.00010	0.00010	0.7130	0.7130
Mean_Dwell	Block_Num2:Target_NameHigh School	1	Model 1	Model 1	Model 1	0.00000	0.00000	0.8534	0.8534
Mean_Dwell	Block_Num2:Target_NamePawn Shop	1	Model 1	Model 1	Model 1	0.00000	0.00000	0.8094	0.8094
Mean_Dwell	Block_Num2:Target_NamePizzeria	1	Model 1	Model 1	Model 1	0.00030	0.00030	0.6712	0.6712
Mean_Dwell	Block_Num2:Target_NamePolice station	1	Model 1	Model 1	Model 1	0.01490	0.01490	0.4513	0.4513
Mean_Dwell	Block_Num2:Target_NameQuattroki Restaurant	1	Model 1	Model 1	Model 1	0.00020	0.00020	0.6849	0.6849
Mean_Dwell	Block_Num3:Target_NameBank	1	Model 1	Model 1	Model 1	0.00000	0.00000	0.8120	0.8120

DV	term	n_models	models	present	significant_in_models	max	min	estimate	estimate
Mean_Dwell	Block_Num3:Target_NameFire Station	1	Model 1		Model 1	0.00000	0.00000	0.8363	0.8363
Mean_Dwell	Block_Num3:Target_NameHigh School	1	Model 1		Model 1	0.00000	0.00001	1.0891	1.0891
Mean_Dwell	Block_Num3:Target_NamePawn Shop	1	Model 1		Model 1	0.00000	0.00000	0.9361	0.9361
Mean_Dwell	Block_Num3:Target_NamePizzeria	1	Model 1		Model 1	0.00010	0.00010	0.7496	0.7496
Mean_Dwell	Block_Num3:Target_NamePolice station	1	Model 1		Model 1	0.00080	0.00080	0.6234	0.6234
Mean_Dwell	Block_Num3:Target_NameQuattro Restaurant	1	Model 1		Model 1	0.00000	0.00000	0.8585	0.8585
Mean_Telephone	AgeDiAtBlock_Num2	3	Model 1, Model 2, Model 3			0.08260	0.9644	-	0.0082
							0.1165		
Mean_Telephone	AgeDiAtBlock_Num2:Target_NameBank	1	Model 1			0.78280	0.7828	-	-
							0.0718		0.0718
Mean_Telephone	AgeDiAtBlock_Num2:Target_NameFire Station	1	Model 1			0.36400	0.36400	0.2366	0.2366
Mean_Telephone	AgeDiAtBlock_Num2:Target_NameHigh School	1	Model 1			0.35550	0.3555	-	-
							0.2409		0.2409
Mean_Telephone	AgeDiAtBlock_Num2:Target_NamePawn Shop	1	Model 1			0.73110	0.7311	-	-
							0.0896		0.0896
Mean_Telephone	AgeDiAtBlock_Num2:Target_NamePizzeria	1	Model 1			0.35930	0.3593	-	-
							0.2389		0.2389
Mean_Telephone	AgeDiAtBlock_Num2:Target_NamePolice station	1	Model 1			0.12090	0.1209	-	-
							0.4044		0.4044
Mean_Telephone	AgeDiAtBlock_Num2:Target_NameQuattro Restaurant	1	Model 1			0.46800	0.4680	-	-
							0.1892		0.1892
Mean_Telephone	AgeDiAtBlock_Num3	3	Model 1, Model 2, Model 3		Model 2, Model 3	0.00190	0.5926	-	-
							0.2083		0.0986
Mean_Telephone	AgeDiAtBlock_Num3:Target_NameBank	1	Model 1			0.50890	0.5089	-	-
							0.1722		0.1722
Mean_Telephone	AgeDiAtBlock_Num3:Target_NameFire Station	1	Model 1			0.69130	0.69130	0.1035	0.1035
Mean_Telephone	AgeDiAtBlock_Num3:Target_NameHigh School	1	Model 1			0.88950	0.8895	-	-
							0.0362		0.0362
Mean_Telephone	AgeDiAtBlock_Num3:Target_NamePawn Shop	1	Model 1			0.49900	0.4990	-	-
							0.1762		0.1762
Mean_Telephone	AgeDiAtBlock_Num3:Target_NamePizzeria	1	Model 1			0.20600	0.2060	-	-
							0.3297		0.3297
Mean_Telephone	AgeDiAtBlock_Num3:Target_NamePolice station	1	Model 1			0.12670	0.1267	-	-
							0.3982		0.3982
Mean_Telephone	AgeDiAtBlock_Num3:Target_NameQuattro Restaurant	1	Model 1			0.61340	0.61340	0.1317	0.1317
Mean_Telephone	AgeDiAtTarget_NameBank	1	Model 1			0.20410	0.2041	-	-
							0.2341		0.2341
Mean_Telephone	AgeDiAtTarget_NameFire Station	1	Model 1			0.57440	0.5744	-	-
							0.1035		0.1035
Mean_Telephone	AgeDiAtTarget_NameHigh School	1	Model 1			0.84020	0.8402	-	-
							0.0372		0.0372

DV	term	n_models	models	present	significant_in_models	max	min	estimate	estimate
Mean_Telephone_Age	Distance:Target_NamePawn	1	Model 1			0.3149	0.3149	-	-
	Shop						0.1853	0.1853	
Mean_Telephone_Age	Distance:Target_NamePizzeria	1	Model 1			0.4872	0.4872	-	-
							0.1281	0.1281	
Mean_Telephone_Age	Distance:Target_NamePolice station	1	Model 1			0.5853	0.5853	0.1006	0.1006
Mean_Telephone_Age	Distance:Target_NameQuattroki Restaurant	1	Model 1			0.6269	0.6269	-	-
							0.0896	0.0896	
Mean_Telephone_Blood	Distance2:Target_NameBank		Model 1			0.3914	0.3914	0.1580	0.1580
Mean_Telephone_Blood	Distance2:Target_NameFire Station	1	Model 1			0.3519	0.3519	0.1716	0.1716
Mean_Telephone_Blood	Distance2:Target_NameHigh School		Model 1	Model 1		0.0012	0.0012	0.5990	0.5990
Mean_Telephone_Blood	Distance2:Target_NamePawn Shop	1	Model 1			0.3522	0.3522	0.1715	0.1715
Mean_Telephone_Blood	Distance2:Target_NamePizzeria		Model 1	Model 1		0.0077	0.0077	0.4918	0.4918
Mean_Telephone_Blood	Distance2:Target_NamePolice station	1	Model 1			0.1875	0.1875	0.2430	0.2430
Mean_Telephone_Blood	Distance2:Target_NameQuattroki Restaurant		Model 1	Model 1		0.0011	0.0011	0.6046	0.6046
Mean_Telephone_Blood	Distance3:Target_NameBank		Model 1	Model 1		0.0282	0.0282	0.4048	0.4048
Mean_Telephone_Blood	Distance3:Target_NameFire Station	1	Model 1	Model 1		0.0065	0.0065	0.5024	0.5024
Mean_Telephone_Blood	Distance3:Target_NameHigh School		Model 1	Model 1		0.0000	0.0000	0.7925	0.7925
Mean_Telephone_Blood	Distance3:Target_NamePawn Shop	1	Model 1	Model 1		0.0058	0.0058	0.5091	0.5091
Mean_Telephone_Blood	Distance3:Target_NamePizzeria		Model 1	Model 1		0.0000	0.0000	0.8432	0.8432
Mean_Telephone_Blood	Distance3:Target_NamePolice station	1	Model 1			0.0761	0.0761	0.3271	0.3271
Mean_Telephone_Blood	Distance3:Target_NameQuattroki Restaurant		Model 1	Model 1		0.0000	0.0000	0.8101	0.8101
Navigation_Telephone_Age	Block_Num2	3	Model 1, Model 2, Model 3			0.0648	0.1834	-	-
							32.4801	16.2043	
Navigation_Telephone_Age	Block_Num2:Target_NameBank		Model 1			0.8316	0.8316	-	-
							7.3405	7.3405	
Navigation_Telephone_Age	Block_Num2:Target_NameFire Station		Model 1			0.1274	0.1274	52.6354	52.6354
Navigation_Telephone_Age	Block_Num2:Target_NameHigh School		Model 1			0.4382	0.4382	26.7591	26.7591
Navigation_Telephone_Age	Block_Num2:Target_NamePawn Shop		Model 1			0.7040	0.7040	13.1158	13.1158
Navigation_Telephone_Age	Block_Num2:Target_NamePizzeria		Model 1			0.4927	0.4927	23.6820	23.6820
Navigation_Telephone_Age	Block_Num2:Target_NamePolice station		Model 1			0.7056	0.7056	13.0402	13.0402
Navigation_Telephone_Age	Block_Num2:Target_NameQuattroki Restaurant		Model 1			0.8096	0.8096	8.3144	8.3144
Navigation_Telephone_Age	Block_Num3	3	Model 1, Model 2, Model 3	Model 2, Model 3		0.0039	0.0767	-	-
							43.2255	25.3262	
Navigation_Telephone_Age	Block_Num3:Target_NameBank		Model 1			0.6735	0.6735	14.5418	14.5418

DV	term	n_models	models	present	significant_in_models	max	min	estimate	estimate
Navigation_Time	AgeOA:Block_Num3:Target_NameFire	1	Model 1			0.1516	0.1516	49.5074	49.5074
	Station								
Navigation_Time	AgeOA:Block_Num3:Target_NameHigh	1	Model 1			0.8045	0.8045	8.5431	8.5431
	School								
Navigation_Time	AgeOA:Block_Num3:Target_NamePawn	1	Model 1			0.5842	0.5842	18.8897	18.8897
	Shop								
Navigation_Time	AgeOA:Block_Num3:Target_NamePolice	1	Model 1			0.4053	0.4053	28.7308	28.7308
Navigation_Time	AgeOA:Block_Num3:Target_NamePolice	1	Model 1			0.6769	0.6769	14.3838	14.3838
	station								
Navigation_Time	AgeOA:Block_Num3:Target_NameQuattroki	1	Model 1			0.8033	0.8033	8.5974	8.5974
	Restaurant								
Navigation_Time	AgeOA:Target_NameBank	1	Model 1			0.0889	0.0889	41.5394	41.5394
Navigation_Time	AgeOA:Target_NameFire	1	Model 1			0.0587	0.0587	-	-
	Station							46.1741	46.1741
Navigation_Time	AgeOA:Target_NameHigh	1	Model 1			0.6710	0.6710	-	-
	School							10.3662	10.3662
Navigation_Time	AgeOA:Target_NamePawn	1	Model 1			0.9171	0.9171	2.5391	2.5391
	Shop								
Navigation_Time	AgeOA:Target_NamePizzeria	1	Model 1			0.2895	0.2895	-	-
								25.8593	25.8593
Navigation_Time	AgeOA:Target_NamePolice	1	Model 1			0.9772	0.9772	-	-
	station							0.6983	0.6983
Navigation_Time	AgeOA:Target_NameQuattroki	1	Model 1			0.0674	0.0674	44.6730	44.6730
	Restaurant								
Navigation_Time	Block_Num2:Target_NameBank	1	Model 1			0.3520	0.3520	-	-
								22.7201	22.7201
Navigation_Time	Block_Num2:Target_NameFire	1	Model 1			0.8154	0.8154	-	-
	Station							5.6994	5.6994
Navigation_Time	Block_Num2:Target_NameHigh	1	Model 1			0.5092	0.5092	16.1133	16.1133
	School								
Navigation_Time	Block_Num2:Target_NamePawn	1	Model 1			0.9691	0.9691	0.9440	0.9440
	Shop								
Navigation_Time	Block_Num2:Target_NamePizzeria	1	Model 1			0.9053	0.9053	2.9048	2.9048
Navigation_Time	Block_Num2:Target_NamePolice	1	Model 1			0.9505	0.9505	-	-
	station							1.5149	1.5149
Navigation_Time	Block_Num2:Target_NameQuattroki	1	Model 1		Model 1	0.0408	0.0408	-	-
	Restaurant							49.9702	49.9702
Navigation_Time	Block_Num3:Target_NameBank	1	Model 1			0.1514	0.1514	-	-
								35.0290	35.0290
Navigation_Time	Block_Num3:Target_NameFire	1	Model 1			0.7379	0.7379	-	-
	Station							8.1671	8.1671
Navigation_Time	Block_Num3:Target_NameHigh	1	Model 1			0.5179	0.5179	15.7819	15.7819
	School								
Navigation_Time	Block_Num3:Target_NamePawn	1	Model 1			0.8862	0.8862	-	-
	Shop							3.4945	3.4945
Navigation_Time	Block_Num3:Target_NamePizzeria	1	Model 1			0.9433	0.9433	1.7360	1.7360
Navigation_Time	Block_Num3:Target_NamePolice	1	Model 1			0.8306	0.8306	-	-
	station							5.2222	5.2222
Navigation_Time	Block_Num3:Target_NameQuattroki	1	Model 1		Model 1	0.0458	0.0458	-	-
	Restaurant							48.7795	48.7795

DV	term	n_models	models	present	significant_in_models	max	min	estimate	estimate
Orientation_Time	OA:Block_Num2	3	Model 1, Model 2, Model 3	Model 1, Model 2, Model 3	0.0000	0.0012	-	-	
Orientation_Time	OA:Block_Num2:Target_NameBank		Model 1	Model 1	0.0002	0.0002	9.5775	9.5775	
Orientation_Time	OA:Block_Num2:Target_NameFire		Model 1	Model 1	0.0010	0.0010	8.3645	8.3645	
Orientation_Time	OA:Block_Num2:Target_NameHigh		Model 1	Model 1	0.0000	0.0000	12.5555	12.5555	
Orientation_Time	OA:Block_Num2:Target_NamePawn		Model 1	Model 1	0.0001	0.0001	9.7997	9.7997	
Orientation_Time	OA:Block_Num2:Target_NamePizzeria		Model 1	Model 1	0.0000	0.0000	10.6988	10.6988	
Orientation_Time	OA:Block_Num2:Target_NamePolice		Model 1	Model 1	0.0085	0.0085	6.6855	6.6855	
Orientation_Time	OA:Block_Num2:Target_NameQuattroki		Model 1	Model 1	0.0000	0.0000	10.7887	10.7887	
Orientation_Time	OA:Block_Num3	3	Model 1, Model 2, Model 3	Model 1, Model 2, Model 3	0.0000	0.0000	-	-	
Orientation_Time	OA:Block_Num3:Target_NameBank		Model 1	Model 1	0.0001	0.0001	9.9775	9.9775	
Orientation_Time	OA:Block_Num3:Target_NameFire		Model 1	Model 1	0.0014	0.0014	8.1416	8.1416	
Orientation_Time	OA:Block_Num3:Target_NameHigh		Model 1	Model 1	0.0000	0.0000	11.6918	11.6918	
Orientation_Time	OA:Block_Num3:Target_NamePawn		Model 1	Model 1	0.0003	0.0003	9.2564	9.2564	
Orientation_Time	OA:Block_Num3:Target_NamePizzeria		Model 1	Model 1	0.0000	0.0000	12.2949	12.2949	
Orientation_Time	OA:Block_Num3:Target_NamePolice		Model 1	Model 1	0.0295	0.0295	5.5264	5.5264	
Orientation_Time	OA:Block_Num3:Target_NameQuattroki		Model 1	Model 1	0.0001	0.0001	10.1758	10.1758	
Orientation_Time	OA:Target_NameBank	1	Model 1	Model 1	0.0000	0.0000	-	-	
Orientation_Time	OA:Target_NameFire	1	Model 1	Model 1	0.0000	0.0000	-	-	
Orientation_Time	OA:Target_NameHigh	1	Model 1	Model 1	0.0000	0.0000	-	-	
Orientation_Time	OA:Target_NamePawn	1	Model 1	Model 1	0.0000	0.0000	-	-	
Orientation_Time	OA:Target_NamePizzeria	1	Model 1	Model 1	0.0000	0.0000	-	-	
Orientation_Time	OA:Target_NamePolice	1	Model 1	Model 1	0.0001	0.0001	-	-	
Orientation_Time	OA:Target_NameQuattroki	1	Model 1	Model 1	0.0000	0.0000	-	-	
Orientation_Time	Block_Num2:Target_NameBank		Model 1		0.1187	0.1187	2.7999	2.7999	
Orientation_Time	Block_Num2:Target_NameFire	1	Model 1		0.0854	0.0854	3.0872	3.0872	
Orientation_Time	Block_Num2:Target_NameHigh	1	Model 1		0.2408	0.2408	2.1047	2.1047	
Orientation_Time	Block_Num2:Target_NamePawn	1	Model 1	Model 1	0.0379	0.0379	3.7261	3.7261	
Orientation_Time	Block_Num2:Target_NamePizzeria		Model 1		0.0731	0.0731	3.2164	3.2164	

DV	term	n_models	models	present	significant_in_models	max	min	estimate	estimate
Orientation	Block_Num2:Target_NamePolice station	1	Model 1			0.2557	0.2557	2.0395	2.0395
Orientation	Block_Num2:Target_NameQuattro Restaurant	1	Model 1			0.7510	0.7510	0.5693	0.5693
Orientation	Block_Num3:Target_NameBank	1	Model 1	Model 1		0.0206	0.0206	4.1572	4.1572
Orientation	Block_Num3:Target_NameFire Station	1	Model 1	Model 1		0.0205	0.0205	4.1600	4.1600
Orientation	Block_Num3:Target_NameHigh School	1	Model 1	Model 1		0.0349	0.0349	3.7866	3.7866
Orientation	Block_Num3:Target_NamePawn Shop	1	Model 1	Model 1		0.0053	0.0053	5.0066	5.0066
Orientation	Block_Num3:Target_NamePizzeria	1	Model 1	Model 1		0.0379	0.0379	3.7279	3.7279
Orientation	Block_Num3:Target_NamePolice station	1	Model 1			0.0545	0.0545	3.4516	3.4516
Orientation	Block_Num3:Target_NameQuattro Restaurant	1	Model 1			0.3637	0.3637	1.6298	1.6298
Speed	AgeOA:Block_Num2	3	Model 1, Model 2, Model 3	Model 2, Model 3		0.0000	0.2378	-	-
							2.7967	1.8283	
Speed	AgeOA:Block_Num2:Target_NameBank	1	Model 1			0.2112	0.2112	-	-
							2.7385	2.7385	
Speed	AgeOA:Block_Num2:Target_NameFire Station	1	Model 1			0.5733	0.5733	-	-
							1.2332	1.2332	
Speed	AgeOA:Block_Num2:Target_NameHigh School	1	Model 1			0.9573	0.9573	0.1174	0.1174
Speed	AgeOA:Block_Num2:Target_NamePawn Shop	1	Model 1			0.9404	0.9404	0.1637	0.1637
Speed	AgeOA:Block_Num2:Target_NamePizzeria	1	Model 1			0.6542	0.6542	-	-
							0.9809	0.9809	
Speed	AgeOA:Block_Num2:Target_NamePolice station	1	Model 1			0.5569	0.5569	-	-
							1.2864	1.2864	
Speed	AgeOA:Block_Num2:Target_NameQuattro Restaurant	1	Model 1			0.4138	0.4138	-	-
							1.7896	1.7896	
Speed	AgeOA:Block_Num3	3	Model 1, Model 2, Model 3	Model 2, Model 3		0.0000	0.1853	-	-
							4.2191	2.0517	
Speed	AgeOA:Block_Num3:Target_NameBank	1	Model 1	Model 1		0.0010	0.0010	-	-
							7.1950	7.1950	
Speed	AgeOA:Block_Num3:Target_NameFire Station	1	Model 1			0.4762	0.4762	-	-
							1.5601	1.5601	
Speed	AgeOA:Block_Num3:Target_NameHigh School	1	Model 1			0.7482	0.7482	0.7028	0.7028
Speed	AgeOA:Block_Num3:Target_NamePawn Shop	1	Model 1			0.3889	0.3889	-	-
							1.8867	1.8867	
Speed	AgeOA:Block_Num3:Target_NamePizzeria	1	Model 1			0.1202	0.1202	-	-
							3.4043	3.4043	
Speed	AgeOA:Block_Num3:Target_NamePolice station	1	Model 1			0.0797	0.0797	-	-
							3.8396	3.8396	
Speed	AgeOA:Block_Num3:Target_NameQuattro Restaurant	1	Model 1			0.9429	0.9429	-	-
							0.1569	0.1569	
Speed	AgeOA:Target_NameBank	1	Model 1			0.3603	0.3603	-	-
							1.4165	1.4165	

DV	term	n_models	models_present	significant_in_models	max	min	estimate	estimate
Speed	AgeOA:Target_NameFire Station	1	Model 1		0.24100	0.2410	-	-
Speed	AgeOA:Target_NameHigh School	1	Model 1	Model 1	0.00390	0.0039	-	-
Speed	AgeOA:Target_NamePawn Shop	1	Model 1		0.74070	0.7407	-	-
Speed	AgeOA:Target_NamePizzeria	1	Model 1		0.71250	0.7125	0.5705	0.5705
Speed	AgeOA:Target_NamePolice station	1	Model 1		0.99920	0.9992	-	-
Speed	AgeOA:Target_NameQuattroki Restaurant	1	Model 1		0.60940	0.6094	-	-
Speed	Block_Num2:Target_NameBank		Model 1		0.45450	0.4545	1.1582	1.1582
Speed	Block_Num2:Target_NameFire Station	1	Model 1		0.15420	0.1542	2.2068	2.2068
Speed	Block_Num2:Target_NameHigh School		Model 1		0.81260	0.8126	-	-
Speed	Block_Num2:Target_NamePawn Shop		Model 1		0.18340	0.1834	-	-
Speed	Block_Num2:Target_NamePizzeria		Model 1		0.81010	0.8101	0.3721	0.3721
Speed	Block_Num2:Target_NamePolice station		Model 1		0.52260	0.5226	0.9900	0.9900
Speed	Block_Num2:Target_NameQuattroki Restaurant		Model 1		0.08240	0.0824	2.6909	2.6909
Speed	Block_Num3:Target_NameBank		Model 1	Model 1	0.00740	0.0074	4.1545	4.1545
Speed	Block_Num3:Target_NameFire Station	1	Model 1	Model 1	0.02990	0.0299	3.3649	3.3649
Speed	Block_Num3:Target_NameHigh School		Model 1		0.74640	0.7464	-	-
Speed	Block_Num3:Target_NamePawn Shop		Model 1		0.41140	0.4114	-	-
Speed	Block_Num3:Target_NamePizzeria		Model 1		0.22990	0.2299	1.8595	1.8595
Speed	Block_Num3:Target_NamePolice station		Model 1		0.06150	0.0615	2.8974	2.8974
Speed	Block_Num3:Target_NameQuattroki Restaurant		Model 1		0.14900	0.1490	2.2353	2.2353
Teleportations	AgeOA:Block_Num2	3	Model 1, Model 2, Model 3		0.48500	0.7315	-	-
Teleportations	AgeOA:Block_Num2:Target_NameBank		Model 1		0.80140	0.8014	-	-
Teleportations	AgeOA:Block_Num2:Target_NameFire Station		Model 1		0.22240	0.2224	3.6667	43.6667
Teleportations	AgeOA:Block_Num2:Target_NameHigh School		Model 1		0.70730	0.7073	13.4333	13.4333
Teleportations	AgeOA:Block_Num2:Target_NamePawn Shop		Model 1		0.91840	0.9184	3.6667	3.6667
Teleportations	AgeOA:Block_Num2:Target_NamePizzeria		Model 1		0.73310	0.7331	12.2000	12.2000
Teleportations	AgeOA:Block_Num2:Target_NamePolice station		Model 1		0.50300	0.5030	23.9667	23.9667
Teleportations	AgeOA:Block_Num2:Target_NameQuattroki Restaurant		Model 1		0.44220	0.4422	27.5000	27.5000

DV	term	n_models	models_present	significant_in_models	max	min	estimate	estimate
Teleportations	AgeOA:Block_Num3	3	Model 1, Model 2, Model 3		0.32510.3451	-	-	
						24.9000	8.9083	
Teleportations	AgeOA:Block_Num3:Target_NameBank	1	Model 1		0.40710.4071	29.6667	29.6667	
Teleportations	AgeOA:Block_Num3:Target_NameFire	1	Model 1		0.31530.3153	35.9333	35.9333	
	Station							
Teleportations	AgeOA:Block_Num3:Target_NameHigh	1	Model 1		0.81150.8115	-	-	
	School					8.5333	8.5333	
Teleportations	AgeOA:Block_Num3:Target_NamePawn	1	Model 1		0.68740.6874	14.4000	14.4000	
	Shop							
Teleportations	AgeOA:Block_Num3:Target_NamePolice	1	Model 1		0.82310.8231	8.0000	8.0000	
Teleportations	AgeOA:Block_Num3:Target_NamePolice	1	Model 1		0.38280.3828	31.2333	31.2333	
	station							
Teleportations	AgeOA:Block_Num3:Target_NameQuattroki	1	Model 1		0.63010.6301	17.2333	17.2333	
	Restaurant							
Teleportations	AgeOA:Target_NameBank	1	Model 1		0.13530.1353	37.8000	37.8000	
Teleportations	AgeOA:Target_NameFire	1	Model 1		0.20610.2061	-	-	
	Station					32.0000	32.0000	
Teleportations	AgeOA:Target_NameHigh	1	Model 1		0.82070.8207	5.7333	5.7333	
	School							
Teleportations	AgeOA:Target_NamePawn	1	Model 1		0.79420.7942	6.6000	6.6000	
	Shop							
Teleportations	AgeOA:Target_NamePizzeria	1	Model 1		0.75590.7559	-	-	
						7.8667	7.8667	
Teleportations	AgeOA:Target_NamePolice	1	Model 1		0.76390.7639	-	-	
	station					7.6000	7.6000	
Teleportations	AgeOA:Target_NameQuattroki	1	Model 1		0.14380.1438	37.0000	37.0000	
	Restaurant							
Teleportations	Block_Num2:Target_NameBank	1	Model 1		0.29380.2938	-	-	
						26.5667	26.5667	
Teleportations	Block_Num2:Target_NameFire	1	Model 1		0.84330.8433	-	-	
	Station					5.0000	5.0000	
Teleportations	Block_Num2:Target_NameHigh	1	Model 1		0.79620.7962	6.5333	6.5333	
	School							
Teleportations	Block_Num2:Target_NamePawn	1	Model 1		0.98320.9832	-	-	
	Shop					0.5333	0.5333	
Teleportations	Block_Num2:Target_NamePizzeria	1	Model 1		0.90250.9025	-	-	
						3.1000	3.1000	
Teleportations	Block_Num2:Target_NamePolice	1	Model 1		0.88790.8879	-	-	
	station					3.5667	3.5667	
Teleportations	Block_Num2:Target_NameQuattroki	1	Model 1	Model 1	0.00710.0071	-	-	
	Restaurant					68.1667	68.1667	
Teleportations	Block_Num3:Target_NameBank	1	Model 1		0.05960.0596	-	-	
						47.7000	47.7000	
Teleportations	Block_Num3:Target_NameFire	1	Model 1		0.72700.7270	-	-	
	Station					8.8333	8.8333	
Teleportations	Block_Num3:Target_NameHigh	1	Model 1		0.80640.8064	6.2000	6.2000	
	School							
Teleportations	Block_Num3:Target_NamePawn	1	Model 1		0.83000.8300	-	-	
	Shop					5.4333	5.4333	
Teleportations	Block_Num3:Target_NamePizzeria	1	Model 1		0.98840.9884	-	-	
						0.3667	0.3667	

DV	term	n_models	models	present	significant_in_models	max	min	estimate	estimate
Teleportation	Block_Num3:Target_NamePolice station	1	Model 1			0.72500	0.7250	-	-
							8.9000	8.9000	
Teleportation	Block_Num3:Target_NameQuattroki Restaurant	1	Model 1		Model 1	0.01030	0.0103	-	-
							65.0000	65.0000	
Total_Time	AgeOA:Block_Num2	3	Model 1, Model 2, Model 3		Model 2, Model 3	0.03730	0.0783	-	-
							43.2667	18.3907	
Total_Time	AgeOA:Block_Num2:Target_NameBank	1	Model 1			0.94860	0.9486	2.2370	2.2370
Total_Time	AgeOA:Block_Num2:Target_NameFire Station	1	Model 1			0.07920	0.0792	60.9999	60.9999
Total_Time	AgeOA:Block_Num2:Target_NameHigh School	1	Model 1			0.25770	0.2577	39.3145	39.3145
Total_Time	AgeOA:Block_Num2:Target_NamePawn Shop	1	Model 1			0.50330	0.5033	23.2467	23.2467
Total_Time	AgeOA:Block_Num2:Target_NamePizzeria	1	Model 1			0.32230	0.3223	34.3808	34.3808
Total_Time	AgeOA:Block_Num2:Target_NamePolice station	1	Model 1			0.57010	0.5701	19.7257	19.7257
Total_Time	AgeOA:Block_Num2:Target_NameQuattroki Restaurant	1	Model 1			0.58230	0.5823	19.1031	19.1031
Total_Time	AgeOA:Block_Num3	3	Model 1, Model 2, Model 3		Model 1, Model 2, Model 3	0.00140	0.0265	-	-
							54.5233	28.1996	
Total_Time	AgeOA:Block_Num3:Target_NameBank	1	Model 1			0.48020	0.4802	24.5194	24.5194
Total_Time	AgeOA:Block_Num3:Target_NameFire Station	1	Model 1			0.09710	0.0971	57.6489	57.6489
Total_Time	AgeOA:Block_Num3:Target_NameHigh School	1	Model 1			0.56010	0.5601	20.2350	20.2350
Total_Time	AgeOA:Block_Num3:Target_NamePawn Shop	1	Model 1			0.41230	0.4123	28.4773	28.4773
Total_Time	AgeOA:Block_Num3:Target_NamePizzeria	1	Model 1			0.23760	0.2376	41.0256	41.0256
Total_Time	AgeOA:Block_Num3:Target_NamePolice station	1	Model 1			0.56650	0.5665	19.9102	19.9102
Total_Time	AgeOA:Block_Num3:Target_NameQuattroki Restaurant	1	Model 1			0.58880	0.5888	18.7732	18.7732
Total_Time	AgeOA:Target_NameBank	1	Model 1			0.21840	0.2184	30.2353	30.2353
Total_Time	AgeOA:Target_NameFire Station	1	Model 1		Model 1	0.02510	0.0251	-	-
							55.0582	55.0582	
Total_Time	AgeOA:Target_NameHigh School	1	Model 1			0.35080	0.3508	-	-
							22.9181	22.9181	
Total_Time	AgeOA:Target_NamePawn Shop	1	Model 1			0.74000	0.7400	-	-
							8.1493	8.1493	
Total_Time	AgeOA:Target_NamePizzeria	1	Model 1			0.11490	0.1149	-	-
							38.7310	38.7310	
Total_Time	AgeOA:Target_NamePolice station	1	Model 1			0.74880	0.7488	-	-
							7.8631	7.8631	
Total_Time	AgeOA:Target_NameQuattroki Restaurant	1	Model 1			0.17580	0.1758	33.2549	33.2549
Total_Time	Block_Num2:Target_NameBank	1	Model 1			0.41730	0.4173	-	-
							19.9202	19.9202	
Total_Time	Block_Num2:Target_NameFire Station	1	Model 1			0.91530	0.9153	-	-
							2.6122	2.6122	

DV	term	n_models	models_at_present	significant_in_models	max_min_estimate	estimate
Total_Time	Block_Num2:Target_NameHigh1 School	Model 1			0.45820.458218.2180	18.2180
Total_Time	Block_Num2:Target_NamePawr1 Shop	Model 1			0.84920.84924.6701	4.6701
Total_Time	Block_Num2:Target_NamePizzeria	Model 1			0.80320.80326.1212	6.1212
Total_Time	Block_Num2:Target_NamePolice station	Model 1			0.98300.98300.5246	0.5246
Total_Time	Block_Num2:Target_NameQuattro Restaurant	Model 1	Model 1		0.04440.0444 -	-
Total_Time	Block_Num3:Target_NameBank1	Model 1			0.20880.2088 -	-
Total_Time	Block_Num3:Target_NameFire 1 Station	Model 1			30.8718 30.8718	30.8718
Total_Time	Block_Num3:Target_NameHigh1 School	Model 1			0.87040.8704 -	-
Total_Time	Block_Num3:Target_NameHigh1 School	Model 1			4.0070 4.0070	4.0070
Total_Time	Block_Num3:Target_NameHigh1 School	Model 1			0.42560.425619.5685	19.5685
Total_Time	Block_Num3:Target_NamePawr1 Shop	Model 1			0.95090.95091.5121	1.5121
Total_Time	Block_Num3:Target_NamePizzeria	Model 1			0.82390.82395.4639	5.4639
Total_Time	Block_Num3:Target_NamePolice station	Model 1			0.94250.9425 -	-
Total_Time	Block_Num3:Target_NamePolice station	Model 1			1.7706 1.7706	1.7706
Total_Time	Block_Num3:Target_NameQuattro Restaurant	Model 1			0.05500.0550 -	-
					47.1497 47.1497	47.1497

Summary and Recommendations

```
# Calculate summary statistics
total_effects_analyzed <- nrow(all_changes_combined)
effects_with_sig_changes <- sum(all_changes_combined$significance_changes)
effects_with_sign_changes <- sum(all_changes_combined$estimate_sign_changes)
effects_with_substantial_changes <- sum(all_changes_combined$substantial_change)

cat("EFFECT CONSISTENCY ANALYSIS SUMMARY:\n")
```

```
## EFFECT CONSISTENCY ANALYSIS SUMMARY:
```

```
cat(paste(rep("=", 50), collapse=""), "\n\n")
```

```
## =====
```

```
cat("OVERALL STABILITY:\n")
```

```
## OVERALL STABILITY:
```

```
cat("- Total effects analyzed:", total_effects_analyzed, "\n")
```

```
## - Total effects analyzed: 48
```

```
cat("- Effects with significance changes:", effects_with_sig_changes,
    "(", round(effects_with_sig_changes/total_effects_analyzed*100, 1), "%)\n")
```

```
## - Effects with significance changes: 18 ( 37.5 %)
```

```
cat("- Effects with sign changes:", effects_with_sign_changes,
    "(", round(effects_with_sign_changes/total_effects_analyzed*100, 1), "%)\n")
```

```
## - Effects with sign changes: 1 ( 2.1 %)
```

```
cat("- Effects with substantial changes:", effects_with_substantial_changes,
    "(", round(effects_with_substantial_changes/total_effects_analyzed*100, 1), "%)\n\n")
```

```
## - Effects with substantial changes: 40 ( 83.3 %)
```

```
# Most stable effects
stable_effects <- stability_summary %>%
  filter(prop_substantial_changes == 0) %>%
  pull(term)

if(length(stable_effects) > 0) {
  cat("MOST STABLE EFFECTS (no substantial changes across models):\n")
  for(effect in stable_effects) {
    cat("-", effect, "\n")
  }
  cat("\n")
}

# Least stable effects
unstable_effects <- stability_summary %>%
  filter(prop_substantial_changes > 0.5) %>%
  pull(term)

if(length(unstable_effects) > 0) {
  cat("LEAST STABLE EFFECTS (substantial changes in >50% of variables):\n")
  for(effect in unstable_effects) {
    cat("-", effect, "\n")
  }
  cat("\n")
}
```

```
## LEAST STABLE EFFECTS (substantial changes in >50% of variables):
## - AgeOA:Block_Num2
## - AgeOA:Block_Num3
## - Block_Num3
## - (Intercept)
## - AgeOA
## - Block_Num2
```

```
cat("INTERPRETATION RECOMMENDATIONS:\n")
```

```
## INTERPRETATION RECOMMENDATIONS:
```

```
if(effects_with_sig_changes == 0 && effects_with_sign_changes == 0) {  
  cat("- Your results are HIGHLY ROBUST across model specifications\n")  
  cat("- Model choice does not affect interpretation or conclusions\n")  
  cat("- You can confidently report results from any of the three models\n")  
} else if(effects_with_sig_changes <= 2 && effects_with_sign_changes == 0) {  
  cat("- Your results are MOSTLY ROBUST with minor significance variations\n")  
  cat("- Core interpretations remain consistent across models\n")  
  cat("- Consider reporting results from the theoretically most appropriate model\n")  
} else {  
  cat("- Your results show MODERATE SENSITIVITY to model specification\n")  
  cat("- Carefully consider which random effects structure is most appropriate\n")  
  cat("- Report sensitivity analysis showing results across multiple models\n")  
  cat("- Focus interpretation on effects that are consistent across models\n")  
}
```

```
## - Your results show MODERATE SENSITIVITY to model specification  
## - Carefully consider which random effects structure is most appropriate  
## - Report sensitivity analysis showing results across multiple models  
## - Focus interpretation on effects that are consistent across models
```

This analysis focuses specifically on whether your conclusions would change based on model choice, rather than statistical fit metrics. It identifies which effects are robust across specifications and which are sensitive to modeling decisions.