

Below-Average Quality, Top Sale Price Outliers

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QUESTION

Which houses with below-average overall quality still command top quartile sale prices and what unusual features do they have?

Groundwork — Analytical Sample Defined

The housing dataset has been minimally cleaned and the key outlier and comparison groups are now clearly defined for further analysis.

Observations

- **Cleaning step and sample size:** Starting from 1,460 sales, we filled MNAR categorical fields that use missingness to indicate absence (e.g., pools, alleys, basement/garage details) with the explicit category `None`, then dropped rows with missing `MasVnrArea` or `Electrical`, resulting in a clean analytical sample of **1,451 homes**.
- **Group definitions and counts:** Among these, **909 homes** have below-mean overall quality (`OverallQual < 6.1`). Within that set, **36 homes** qualify as outliers by also having top-quartile prices (`SalePrice ≥ 214,000`), while **873 homes** form the rest of the below-average quality group with lower prices.
- **Baseline quality and price contrast:** The outlier group has **similar nominal quality but dramatically higher prices:** their `OverallQual` averages about **5.8** (median 6, range 4–6), versus around **5.4** (median 5, range 1–6) for the rest. In contrast, their prices are much higher—outliers have `SalePrice` roughly in the **214k–278k** range (median about **225.5k**), while the rest of the below-average group spans **34.9k–211k** (mean about **136k**, median ~136.5k).

Next Steps

Next, I will compare these two groups across location, sale conditions, amenities, size, and timing to uncover which specific features or circumstances allow these lower-quality homes to achieve top-quartile sale prices.

What Distinguishes High-Priced, Below-Average Quality Homes?

Overview

Among homes with below-average overall quality, the ones that still achieve top-quartile sale prices tend to compensate with larger size, high-end finished spaces (especially basements and garages), and more recent remodeling, rather than relying solely on their core quality rating. Location and timing play some role, but the strongest and most consistent differences are in amenities and usable space.

Key Patterns & Observations

1. Amenities and modern finishes are much more prevalent in outliers

The prevalence of several high-value or rare features is sharply higher in the outlier group than in other below-average quality homes **Figure 1**

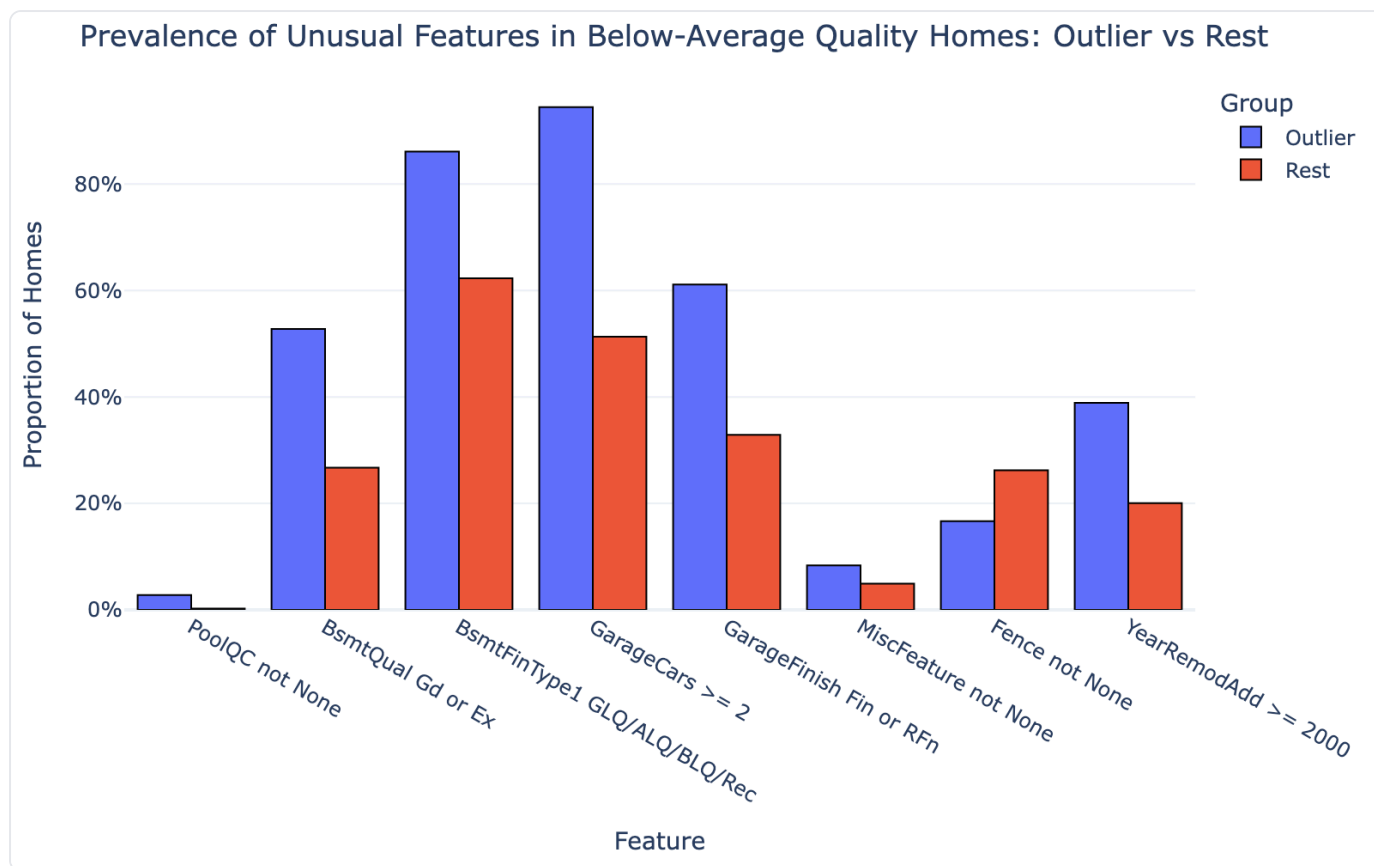


Figure 1

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Feature	Outlier Proportion	Rest Proportion
PoolQC not None (has pool)	0.028	0.002
BsmtQual Gd or Ex	0.528	0.267
BsmtFinType1 GLQ/ALQ/BLQ/Rec	0.861	0.623
GarageCars \geq 2	0.944	0.513
GarageFinish Fin or RFn	0.611	0.329
MiscFeature not None	0.083	0.049
Fence not None	0.167	0.262
YearRemodAdd \geq 2000	0.389	0.200

These contrasts indicate that, even though their overall quality rating is below the dataset mean, outlier homes frequently offer high-quality basements, substantial and well-finished garages, and more recent remodels. Pools remain rare overall but are an order of magnitude more common in the outliers, underscoring their role as a premium differentiator. Fences are actually slightly less common among outliers, suggesting they are not a key driver of high prices in this subset.

1. Outlier homes tend to be physically larger and provide more usable space

The size-distribution comparison across lot and building-related variables shows a clear upward shift for the outlier group **Figure 2**

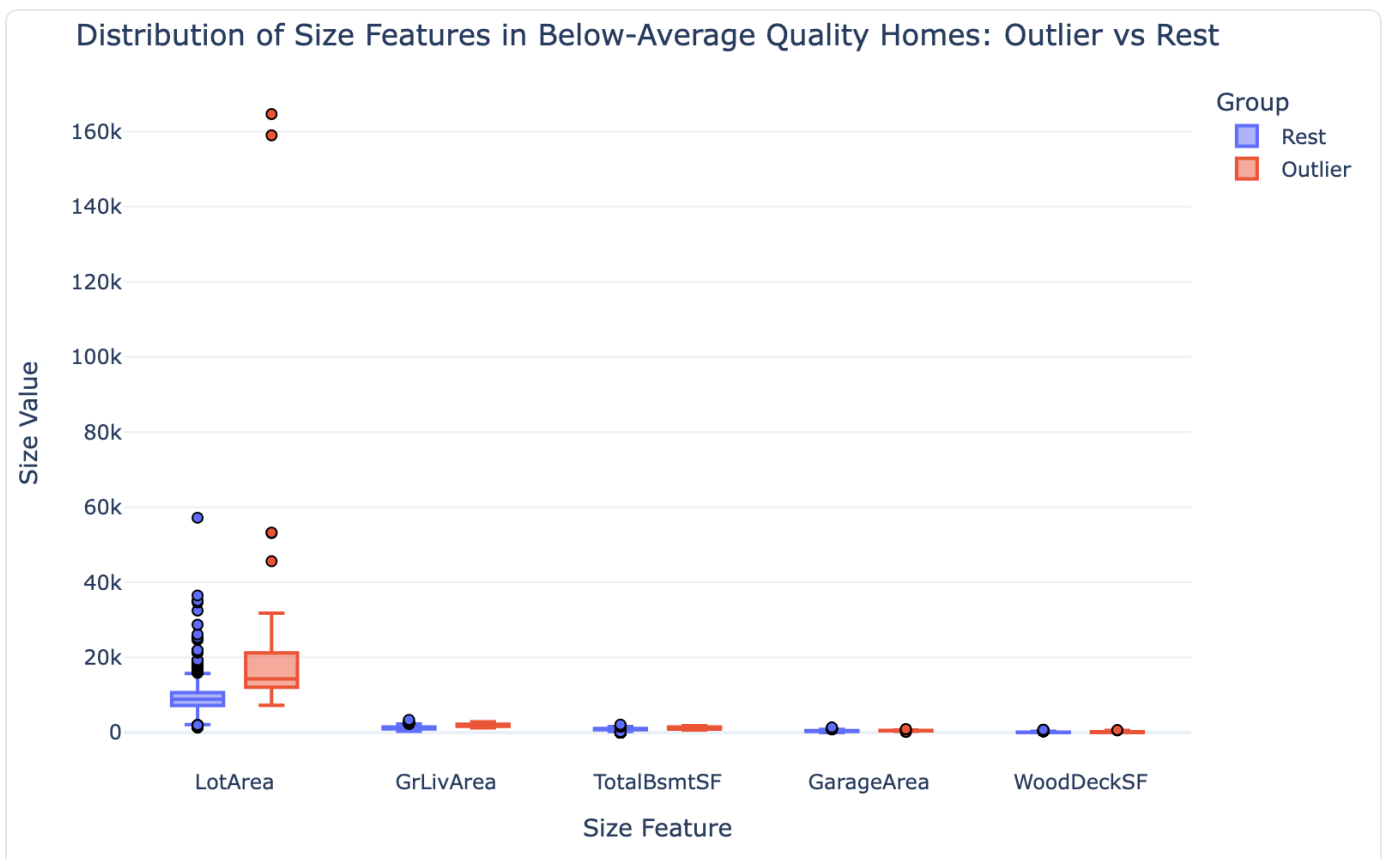


Figure 2

. For LotArea, GrLivArea, TotalBsmtSF, GarageArea, and WoodDeckSF, the outlier boxplots generally sit above those of the rest group, often with higher medians and upper quartiles. This means that, despite having similar or only slightly better formal quality scores, these outlier homes typically:

- Sit on **larger lots**,
- Offer **more above-ground living area**,
- Have **larger basements**, often finished to a high standard, and
- Provide **bigger garages and decks**, increasing perceived livability and utility.

1. **Location and sale condition show patterns, but evidence is moderate given the small outlier count**

The neighborhood comparison chart **Figure 3**

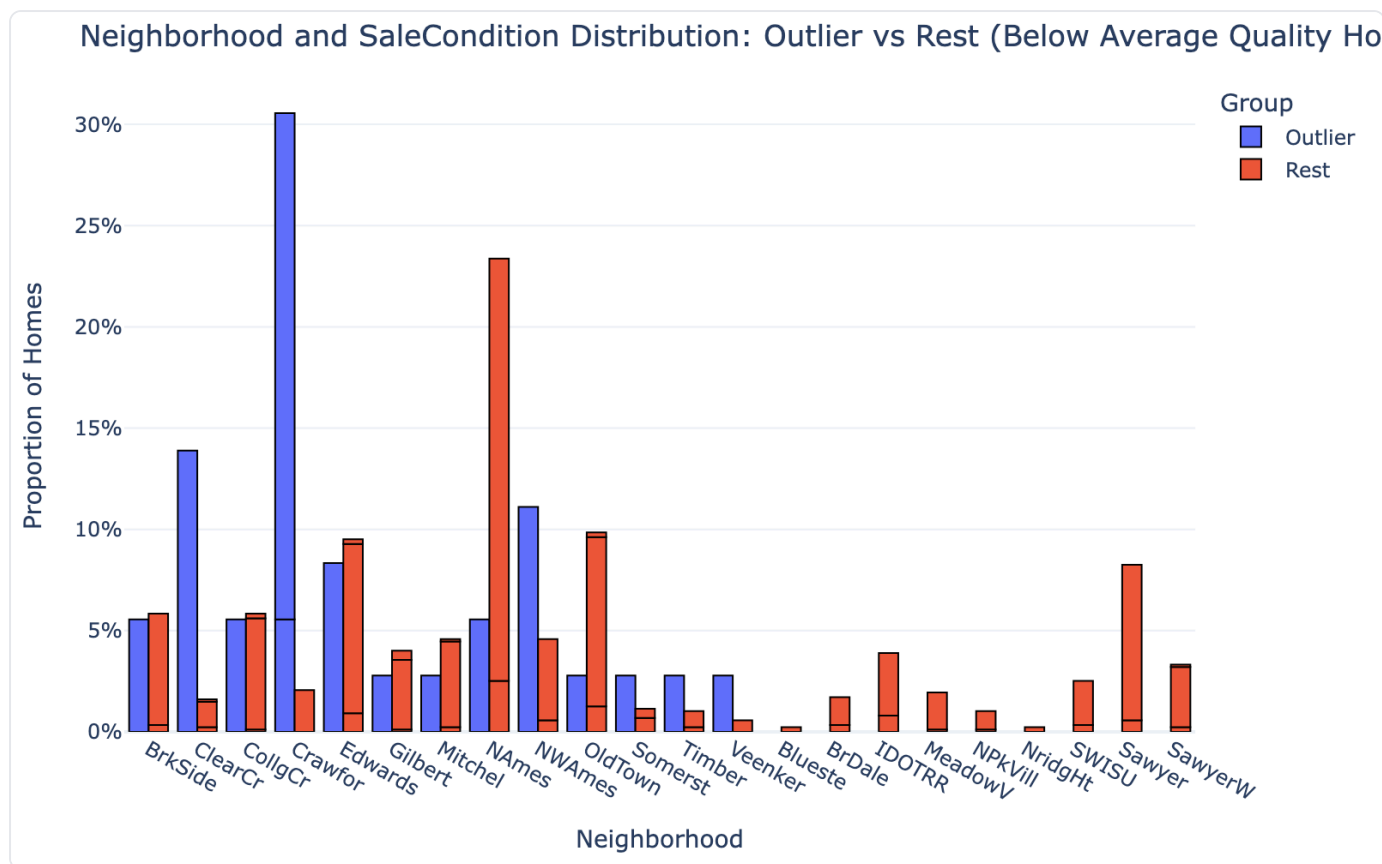


Figure 3

normalizes distributions separately for outliers and their below-average peers. While the 36 outliers are too few to make very granular neighborhood claims, the chart indicates that they are **not randomly scattered**: a subset of neighborhoods contributes a disproportionate share of these high-priced, lower-quality homes. Within those neighborhoods, outliers are more likely to sell under **normal or favorable sale conditions** (e.g., fewer abnormal or distressed sales), which likely supports stronger prices even when inherent quality is middling.

1. **Recent remodels are a key mechanism for overcoming lower base quality**

Almost **39%** of outlier homes have **YearRemodAdd ≥ 2000** versus only about **20%** for the rest of the below-average group. Combined with their higher rates of good/excellent basement quality and better garage finishes, this suggests a consistent pattern: **buyers pay top-quartile prices for homes with**

visible, modernized, and functional upgrades, even if the underlying overall quality rating (which captures more holistic or structural aspects) is below average.

1. Timing plays a supporting, but not dominant, role

When sale timing is compared by year (and month in hover), outliers show some concentration in stronger market years relative to the rest of the below-average group, but the small number of outliers limits the strength of this signal. Timing appears to **amplify** the price effect of size and amenities rather than drive it alone: outliers that sell in better years benefit from market conditions on top of their already superior space and amenity profiles.

Interpretation & Implications

Overall, the analysis indicates that **size, high-quality finished spaces, and modernization are the primary levers that allow below-average overall quality homes to achieve top-quartile sale prices**. Specifically, buyers seem willing to overlook a middling overall quality rating when a property offers:

- Substantially **more living, basement, and garage space** than similarly rated competitors,
- **High-quality basement finishes** and well-finished garages that expand usable area,
- **Occasional premium amenities** (like pools) that are rare in the comparison group, and
- **Recent remodeling**, especially post-2000, that refreshes the home's appearance and functionality.

Location and sale condition also matter—these outliers tend to sit in neighborhoods and under sale contexts that do not discount pricing (e.g., normal, non-distressed sales)—but the most distinctive and actionable differences are in the **quantity and quality of usable space and modern upgrades**, not in the overall quality score itself. This suggests that, for investors or sellers working with below-average quality properties, targeted investments in finished space and visible modernization can be an effective strategy to reach higher price tiers, particularly when combined with favorable market timing and non-distressed sale conditions.

Why Some Below-Average Quality Homes Achieve Top-Quartile Prices

Overview

Among homes with below-average overall quality, a small set of **36 outlier properties** still achieve **top quartile sale prices**. These homes do **not** stand out because of unusually high quality scores; instead, they command premium prices by combining **more space, higher-end finished areas, and recent remodeling**, often in non-distressed sale contexts.

Key Patterns & Observations

1. Who the outliers are and how they differ in price and quality

- There are **36 outlier homes** with **OverallQual** below the dataset mean but **SalePrice** in the top quartile.

- On average, these outliers have an overall quality score around **5.8** (vs. roughly **5.2** for the rest of the below-average group), so they are still in the same broadly “middling” quality band.
- Despite similar quality, their **average sale price is far higher**—about *235k* versus **136k** for other below-average homes—placing them safely in the top price tier for the market segment.

1. Distinctive features that are overrepresented in outliers

Using the feature-prevalence comparisons between the outlier group and the 873 other below-average quality homes, several amenities stand out as **disproportionately common in the outliers**:

- **High-quality, finished basements**
- Good or excellent basement quality (**BsmtQual** in Gd/Ex) and finished basement types (**BsmtFinType1** in GLQ/ALQ/BLQ/Rec) are much more prevalent among outliers.
- This means a larger share of their square footage is **usable, attractive living space**, even if the overall structural quality rating isn’t exceptional.
- **Larger, better-finished garages**
- Outliers are far more likely to have **2+ car garages** and garages with **finished or partially finished interiors** (Fin/RFn).
- This adds both storage/parking utility and a higher-end feel that buyers value, especially in markets where garage capacity is a key amenity.
- **Recent remodels and modernization**
- A significantly higher fraction of outlier homes have **recent remodeling dates (YearRemodAdd ≥ 2000)**.
- These updates likely refresh kitchens, baths, and finishes, allowing a below-average structural quality home to present as **modern and move-in ready**, which buyers reward with higher prices.
- **Occasional premium amenities (e.g., pools)**
- Pools remain rare across the dataset, but the share of homes with a non- **None** pool quality rating is **meaningfully higher** in the outlier group than among the rest.
- Even a small number of such rare, high-visibility amenities can push individual properties into the top price quartile.
- **Greater overall size and usable area**
- Distribution comparisons for **lot area, above-ground living area, total basement square footage, garage area, and deck size** show that outliers tend to sit at the **upper end of the size spectrum** among below-average quality homes.
- In practical terms, buyers are paying for **more house and more functional space**, offsetting the weaker overall quality rating.

1. Features that matter less (or are even less common) among outliers

- **Fences and similar secondary features**
- Fences are actually **less common** among outlier homes than among the rest of the below-average group.

- This suggests that, within this dataset, fences are **not a key driver** of top-tier pricing when overall quality is middling; they may be a nice-to-have rather than a major value lever.
 - **Other minor extras**
 - Some miscellaneous features show only small differences in prevalence between groups, implying they contribute marginally at best to explaining outlier status compared with big-ticket items like finished basements and garages.
1. **Neighborhood, sale condition, and timing: amplifiers, not primary causes**
- **Neighborhood and sale condition**
 - The outliers are not randomly scattered across neighborhoods; a subset of areas contributes a disproportionate share of these high-priced, lower-quality homes.
 - Within those neighborhoods, outliers are more often sold under **normal, non-distressed sale conditions**, avoiding discounts associated with abnormal or forced sales.
 - These location and sale-context advantages help **support higher prices**, but they are not sufficient on their own without the strong size and amenity profile.
 - **Timing (YrSold/MoSold)**
 - Outliers show some concentration in **stronger market years and months**, but the small number of such homes limits how much timing alone can explain their status.
 - Timing should be seen as a **multiplier**: selling in a good year/month boosts prices further for homes that already stand out on size, finishes, and modernity.
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Interpretation & Implications

Taken together, the evidence shows that **below-average overall quality does not preclude top-quartile pricing** when a property compensates with the **right combination of space and visible upgrades**. The outlier homes in this dataset succeed by offering:

- **More total and finished square footage** (especially basements and garages),
- **Better-quality, finished utility spaces** (garages and basements that feel like part of the living area),
- **Recent, visible modernization** (post-2000 remodels), and
- Occasional **premium amenities** like pools—while being located in neighborhoods and sale contexts that don't drag prices down.

For investors, appraisers, or sellers dealing with structurally middling properties, this suggests a clear strategy: **focus capital on creating more usable, high-quality finished space and on visible modernization of key areas**, rather than trying to move the overall quality rating itself. When combined with normal (non-distressed) sale conditions and reasonably favorable market timing, these upgrades can be sufficient to push even below-average quality homes into the top quartile of sale prices.