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An Analysis on Capacity for Change Among Various Demographics

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Abstract

We sought to produce a study that analyzes the conceptualization of “change” in oneself and others. Literature was reviewed to both define change and guide questions presented in our survey. Residents of the Midwest United States ( $n=100$ ) were questioned using a series of questions with quantitative answers. Respondent’s answers were divided into graphic tables in order to more efficiently analyze data. Answers were then analyzed using a chi-square, ANOVA, and t-test of means to determine the significance of different answers using the standard level of ( $\text{sig}=0.05$ ). Combining these results with other interpretations of data yielded our discussion over perceptions of capacity to change in both perception of self and others. We then discuss future applications of this study and potential expansions and flaws with the study.

### Introduction

The purpose of this research was to analyze relations between multiple perceptions of “capacity to change”. However, with such an ambiguous concept, we were first in need of guidance on how to define the term. After reviewing pre existing studies to define the concept of change, we were free to explore potential relations regarding perceived capacity to change. We released a quantitative survey that analyzed residents of the Midwest area ( $n=100$ ) with no preference to any demographic such as race, age, gender, etc. Admittedly, most results (68%) were filed by people in the 18-24 years old age category, so answers were primarily representative of this age range. Participants were questioned on their age, gender, and spirituality in order to divide answers into demographic categories for ease of analysis. Additionally, questions asked participants to self evaluate their own perceived capacity for self-change and capacity of others ability to change through a variety of quantitative questions using the five-point-likert-scale format.

Collected data was then analyzed using chi-squares, T-tests, and one way ANOVA tests. Upon comparing the results of these tests to the significance level of .05, we were able to confidently conclude if a relationship was significant. Upon analyzing results, a few discovered relations were unveiled. First, and admittedly unimportant to our overarching research, we discovered a positive relationship between age and spirituality, with level of spirituality increasing as participants' age increased. In relation to our research, we revealed a relationship between perceived self-capacity to change and perception of others' capacity to change. Other relationships were revealed in relation to our initial research goal, including relations between age and perceived capacity of others to change. Additionally, the perception of felons' capacity to change was reviewed, unveiling relationships with age and spirituality.

### Literature Review

The capacity for change is, admittedly, an ambiguous field. While specific “change” can vary given what is observed to ‘change’, our research was guided to observe change in people. However, “change in people” is still an ambiguous topic that requires a solid set of criteria to be observed. We utilized Jack Lindquist’s and William Bergquist’s *Strategies for Change* (1978) to guide us to a concrete definition of change. Change is specified to be an internal process of the human psyche. Internal change is then defined as “a rational sequence of activities to produce a change message” (Bergquist 11). This puzzled us at first, as defining internal change as the sequence of activities led us to believe that they mistakenly were describing external change, given that activities happen external to the human psyche. However, it is also revealed that change (in the form of activities to produce a change message) is the mindset and thoughts that motivate actions. Bergquist presents that the primary limiter of change is psychological barriers. In order for one to change, they must overcome these ‘barriers’ in order to develop the mentality to achieve change. This presented concept guided our questions further. We asked participants to self-identify if they are willing to change, indicating whether they subconsciously have these psychological barriers. One correlation we were interested in discovering is if psychological barriers have any influence over the perception of others’ abilities to change.

With a concept of overcoming psychological barriers established as a necessary criterion for change, we were also interested in discovering any other motivating factors for change. One such factor found occurred in Litaker’s *Association of Intervention Outcomes With Practice Capacity for Change: Subgroup analysis from a group randomized trial* (2008). This study focused on the changing of healthcare delivery services based on outcomes produced from that change. In short, it was found that change was more likely to occur if it is more probable that the

change will lead to a desired outcome. While we agree with this conclusion, it is important to note that it is a common phenomenon for people to recognize that change will lead to a desired outcome but choose not to engage in change regardless. In reference to the last paragraph, we believe that change can only occur when certain psychological barriers are overcome. However, we recognize that either 1) the occurrence of change can only be considered only after a psychological barrier is overcome, or 2) the overcoming of psychological barriers can be assisted when it is recognized that change is more likely to produce a desired outcome. We asked our questions in a specific order that first made participants identify any underlying psychological barriers and thereafter asked them about their views on motivation as a factor in change. Doing so, we believe, could reveal an answer to either of the two theories proposed above.

While it has been established that psychological barriers must be overcome and likelihood of desired outcomes motivate the occurrence of change, there is another major factor that determines if change can occur, the *readiness* for change. Foster-Fishman's *Building an Active Citizenry: The Role of Neighborhood Problems, Readiness, and Capacity For Change* (2007) applies the concept of 'readiness for change' in analyzing a community's ability to address and act against certain issues. The variable of 'readiness for change' is established as a vital factor that determines whether a community wants to even address an issue. Therefore, we decided that the readiness for change should be analyzed on a general level in our study. Our study asked participants to evaluate their own openness to change and to evaluate whether motivation to change plays a vital role in others' ability to change. We believe that, through analyzing readiness to change in both self and others, it will be revealed that people on average view their own motivation to change as higher than their view of others' motivation to change.

Furthermore, we believe that it may be notable to record any correlations between people's own motivation to change and their personal belief of motivation being a vital factor in change.

Additionally, Golding's *Mathematics teachers' capacity for change* offers a perspective that change can also be seen as an opportunity for growth. This angle is what we were also thinking initially but it opened up the discussion that change is more often than not, seen as something that hurts. However this is not what we are analyzing. We are focusing on the concept that any person, at any point, carries the ability to alter their mindset or viewpoint. The study analyzes capacity for change in the lens of teachers in the English public school system. However many of the approaches and conclusions can still be applied to many different areas. For example, it appears that in order for there to be a presence of capacity for change there should be a few aspects in play. Like positive dispositions for such change, a certain level of knowledge related to such change, and the correct environments for the change to occur. (Golding, 2017) This also brought factors like commitment for change, frequency of change, and even the awareness of change into the fold. All of these are valid focal points to address in our data gathering phase. Having a positive correlation for change involves what was mentioned before on how the public may view change internally. Possessing a certain level of knowledge would be required for change in the most basic sense because one would need to know about it in order to bring about deliberate change. However there are also many instances of change occurring and the person not realizing it even happening until afterwards. And while we all may know change and progression can be a good thing, many of us still see it as something to be avoided.

It is often said in our culture and is widely agreed upon that humans don't like change. Do we like things to be consistent? Do we like our routines too much? Perhaps we fall into our

everyday habitual activities so fast because we like it that way. In Hubbart's *Organizational change: The Challenge of Change Aversion* aims to understand what causes us to have that aversion for change. It is important to note that any level of aversion to change is normal. Every person has some sort of fear of the unknown, a discomfort for loss of control, or a preference for things one might be familiar with as opposed to things they are not. Likewise, change is a process. It does not happen overnight. These are all reasons people avoid change. In the study, the author offers three relevant main points addressing change aversion. The author frames these in the context of change as an organization, however they can apply just as much for individual endeavors. The main points are adjusting to change, the role of leadership, and investing in change acceptance (Hubbart, 2023). Adjusting to change is exactly as it sounds, the process of analyzing and adapting to the change. This step is important because if it is a change that cannot be avoided, it is crucial to come to terms with it to best to circumvent any early grievances with it. There are also a number of other subfactors to address like stepping out of your comfort zone, overcoming your attachment to the old, your expectations, that fear of change, and the initial cognitive dissonance. The role of leadership can be something as simple as an example for how to manage such change. Having a vision for change can also be a huge assistance before the change occurs to help reduce that aversion. And investing in change acceptance is also as it sounds. Lasting change can only happen if one believes that the change is useful and good for them. Instilling that belief is the only way to make sure the change is desired in the first place.

One idea that spawned the ideas presented in this study was the concept of "repeat offenders". With half of our research team majoring in Pre-Law, this concept has been brought up in passing multiple times when examining the law. One pre-existing study, Mungan's *Repeat Offenders: If They Learn, We Punish Them More Severely* (2010), outlines this concept

effectively. In his intro, he references a number of preexisting studies that yield contradictory results regarding the phenomena of repeat offenses. Because of the ambiguous nature of analyzing repeat offenses, he even refers to the issue as a “puzzle” (Mungan 1). Mungan then writes of the importance of punishing repeat offenders. He dictates that criminals who are convicted for a repeated offense are likely to repeat the offense once again if not properly punished. That being said, he presents the concept of “change” as a goal that can likely only be achieved by proper punishment, with little consideration for internal motivation for change. These ideas presented led us to not only consider analyzing participant’s views on changing criminal behaviors, but to also analyze how people view change as a result of the external environment. One can see this inspiration in multiple of our questions, which are designed in a specific order to first have participants consider criminal capacity to change, then to consider influences on capacity to change, such as motivation and external factors. We also believe that concepts covered in this study synergize well with concepts previously mentioned. While Bergquist believed that much of the existing studies on change were contradictory, we believe that all studies covered here can synergize to create a detailed understanding of how change can occur.

During our research, we found that a large factor for capacity for change or for change to occur in general, is the level of readiness for change. The latent ability to avert one’s ways or alter their perspective/viewpoint is dependent on many factors and this one appeared to be the most influential. Mladenova’s *Relation between organizational capacity for change and readiness for change* helps shed some light on what exactly this might entail. It goes further in labeling capacity for change as “a capability to implement a change” and that readiness is best viewed as an attitude (Mladenova, 2022). This makes sense since when it comes to framing how



one might see change, it will usually boil down to how they feel about the change. Like how a young child might not want to move houses, thus not feeling ready for it and having a negative attitude for that particular change. That example would also go to show that when it comes to that child's capacity for change, they would not have much capacity for that specific area, but perhaps would for other things. It would be worth looking into if capacity for change should be viewed as an overall concept, or if it should be seen as split into several categories. Regardless, the research article goes on to talk about this topic some more stating that there should be more research looking into the different types of change. In the end, it goes without saying that both capacity for change and readiness for change differ from person to person. However, the article does affirm that the two are related to one another and do complement each other. It's important to note that readiness for change is not always a constant state. It can vary based on the situation, the individual, and the specific change that is being proposed. For example, someone may be ready and willing to change their diet but not ready to quit smoking. Therefore, it's crucial to assess an individual's readiness for change before attempting to implement any changes. This can be done through various methods such as surveys, interviews, and observation. By understanding an individual's capacity and readiness for change, we can better tailor our approach and increase the likelihood of successful change implementation. It's also important to note that capacity for change can be developed and improved over time through training and education. Therefore, individuals and organizations should prioritize investing in developing their capacity for change to increase their overall ability to adapt and thrive in an ever-changing world.

### Method

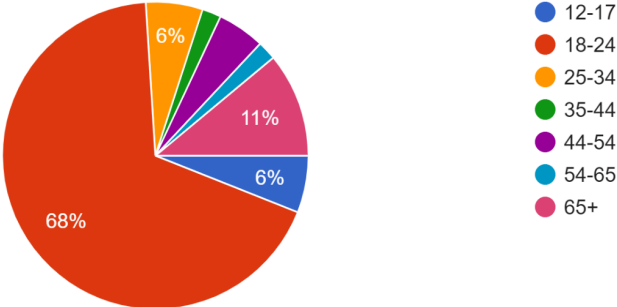
A survey will be sent out to surrounding peers and various groups in the vicinity to gather data. In general, the subjects answering the survey are in the midwest region of America. The

main demographics we are analyzing here are age, gender, level spirituality, and how much they have experienced change in their lives. The survey will consist of 15 questions with a few of them being categorical in their answers, but most of the questions have a likert scale for the answers. The questions are: 1. What is your age? 2. What is your gender? 3. How spiritual are you? (Spiritual as in a connection to religion, faith, or any higher belief.) 4. About how many times have you experienced significant change in your life? 5. How would you rate your own openness to change? 6. How do you view other people's capacity to change? (Capacity for change would refer to the ability for an individual to avert their ways. Like a prisoner who killed someone coming to Christ while incarcerated.) 7. Do you believe people's personalities are formed by their surrounding environment or biologically? 8. What are your general views on change? The following questions are on a scale of Strongly disagree to Strongly agree: 9. I believe people are born either good or bad. 10. I believe that I am capable of changing. 11. How ready I am for change influences my willingness for change. (This can apply to any subject.) 12. Felons are likely to commit their crime again. 13. I believe criminal behavior can be corrected. 14. The ability to change is based on a person's motivation to do so. 15. People can desire to change, but their ability to do so is limited by their surrounding factors. Questions 1, 2, and 4 are categorical in their answers, while the rest are all on a Likert Scale. The data from the completed surveys were then put into SPSS and some questions were analyzed alongside one another to find any sort of correlation or significance. We used three analysis testing methods, one t-test sample, one ANOVA sample, and one chi-square sample. The main questions we want to analyze here are questions 6 and 10, relating to how one views another's capacity to change, as well as in themselves.

Results

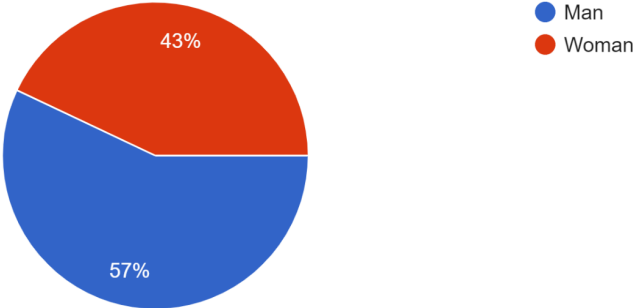
What is your age?

100 responses



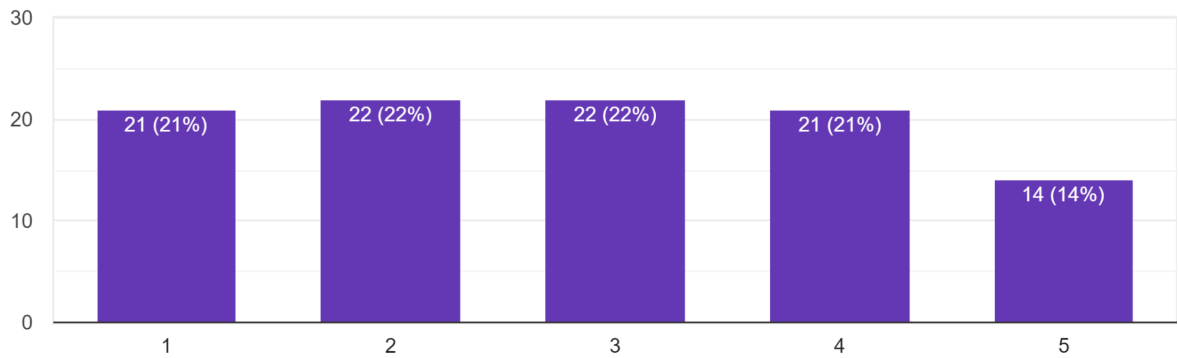
What is your gender?

100 responses



How spiritual are you? (Spiritual as in a connection to religion, faith, or any higher belief.)

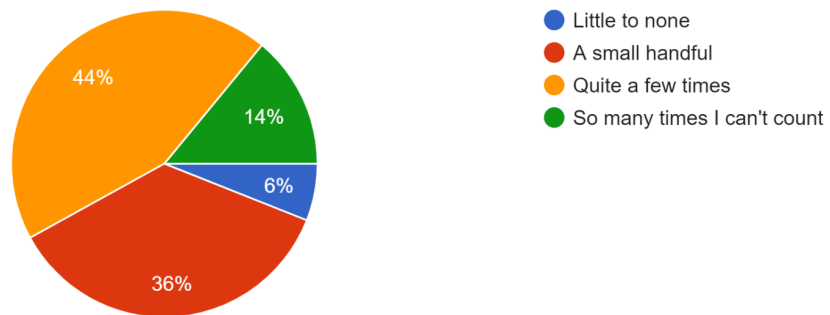
100 responses



\*On a scale of 1 being 'not at all spiritual' and 5 being 'very spiritual.'

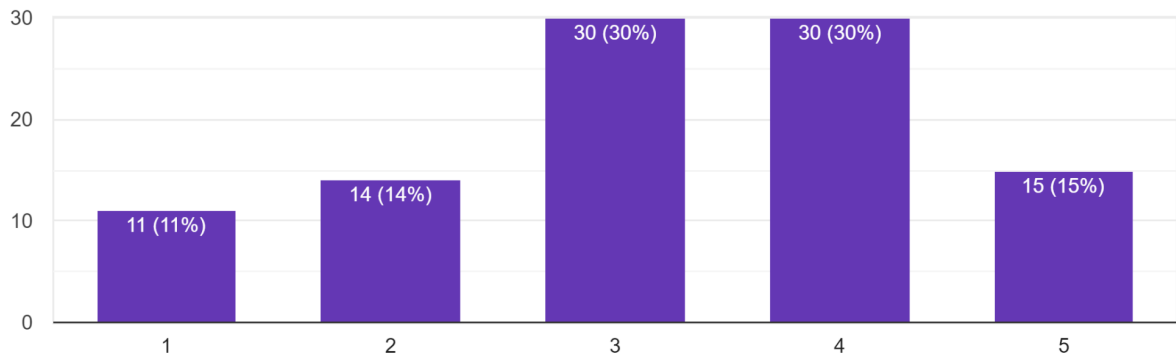
About how many times have you experienced significant change in your life?

100 responses



How would you rate your own openness to change?

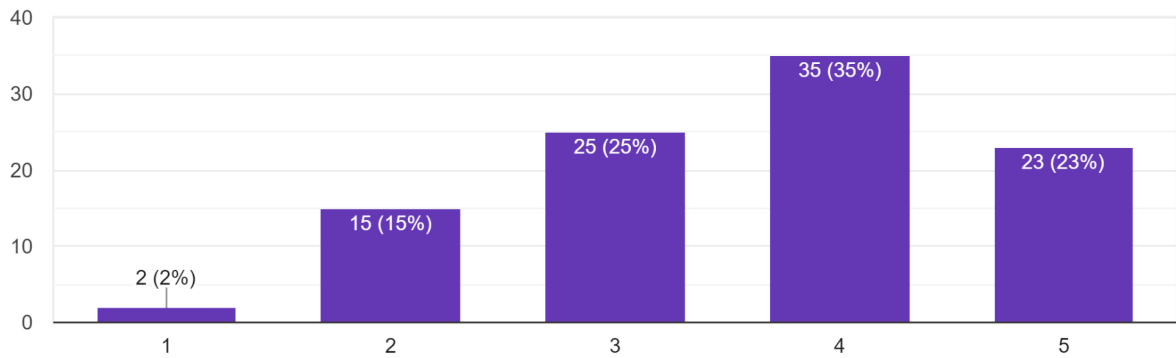
100 responses



\*On a scale of 1 being ‘I’m not not open to change’ and 5 being ‘I’m open to change.’

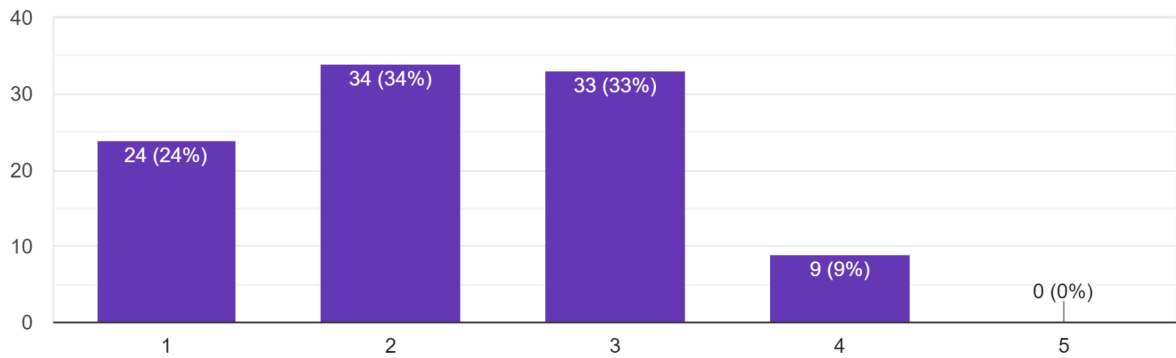
How do you view other people's capacity to change? (Capacity for change would refer to the ability for an individual to avert their ways. Like a prison...killed someone coming to Christ while incarcerated.)

100 responses



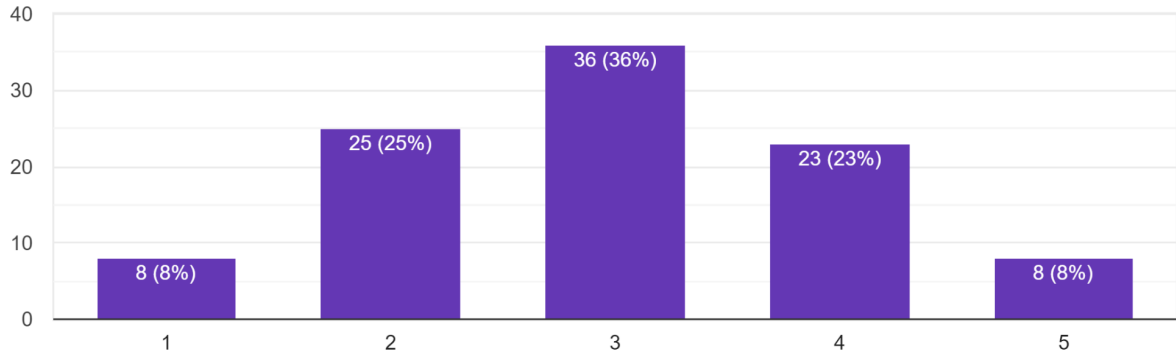
\*On a scale of 1 being ‘other people don't have a capacity for change’ and 5 being ‘other people do have a capacity for change.’

Do you believe people's personalities are formed by their surrounding environment or biologically?  
100 responses



\*On a scale of 1 being 'surrounding environment' and 5 being 'biologically.'

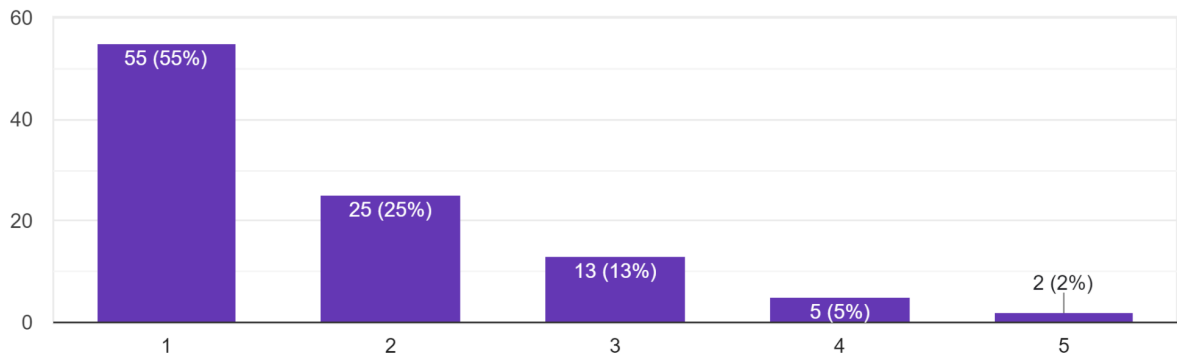
What are your general views on change?  
100 responses



\*On a scale of 1 being 'I avoid change as much as possible' and 5 being 'I like change and accept it as often as possible.'

I believe people are born either good or bad.

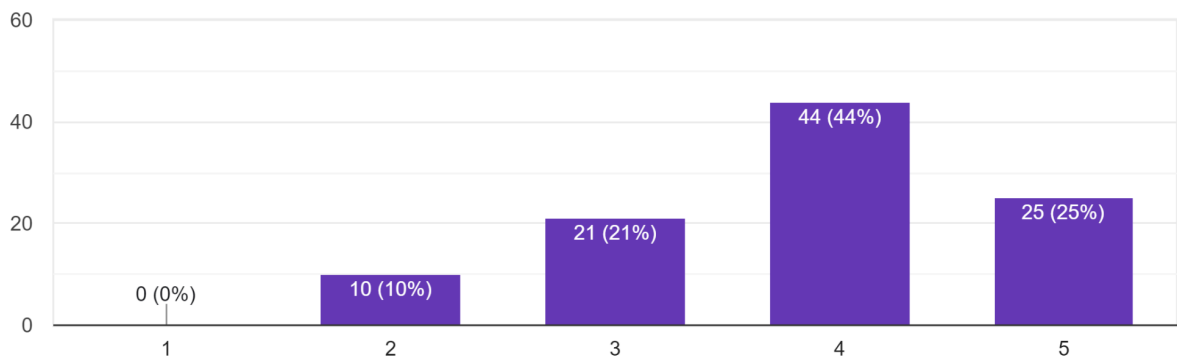
100 responses



\*This question and all subsequent questions are on a scale of 1 being 'strongly disagree' and 5 being 'strongly agree.'

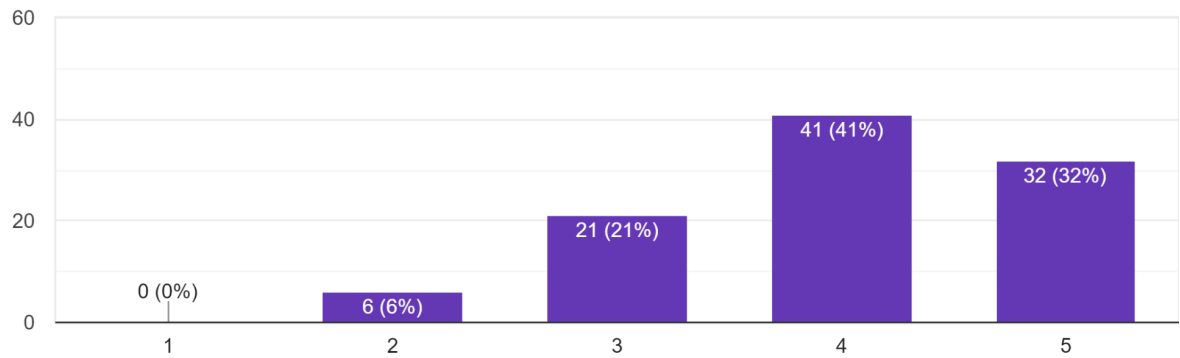
I believe that I am capable of changing.

100 responses



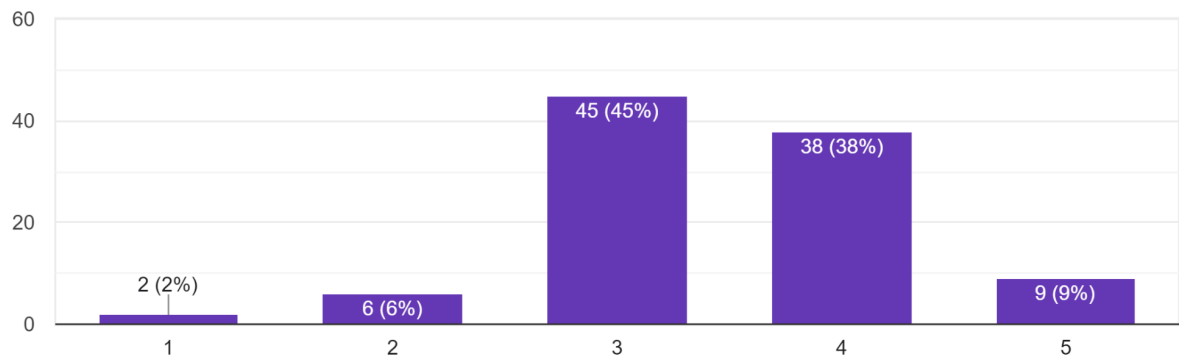
How ready I am for change influences my willingness for change. (This can apply to any subject.)

100 responses



Felons are likely to commit their crime again.

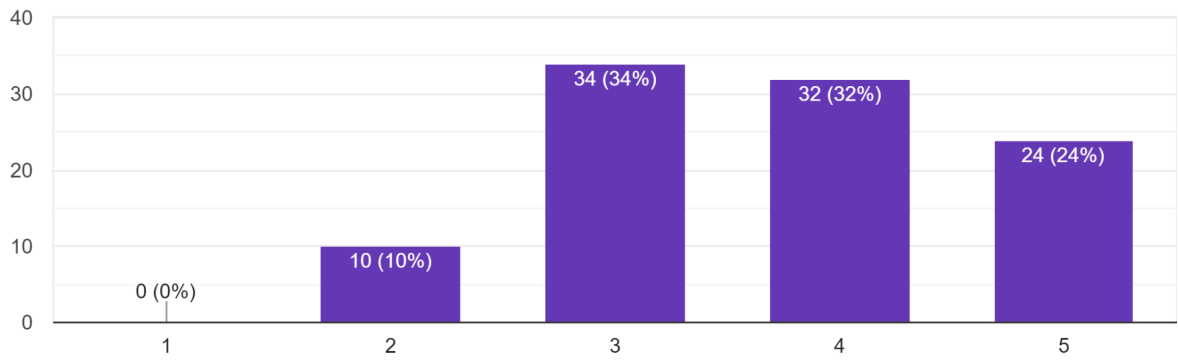
100 responses





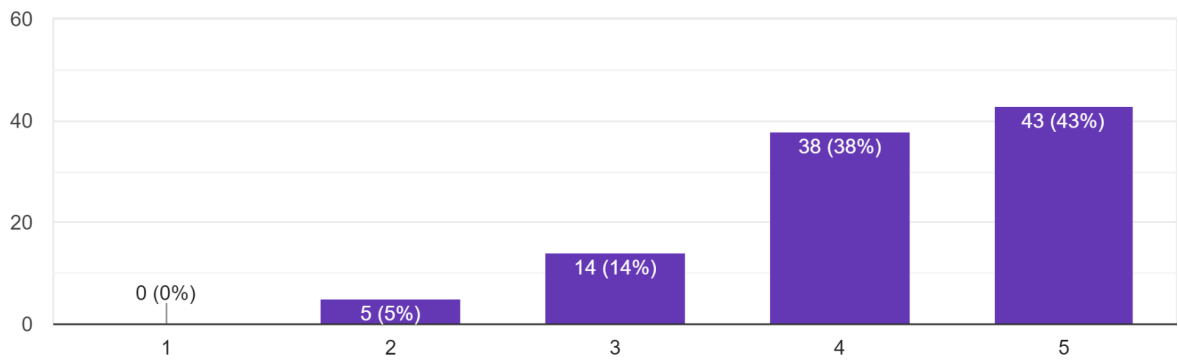
I believe criminal behavior can be corrected.

100 responses

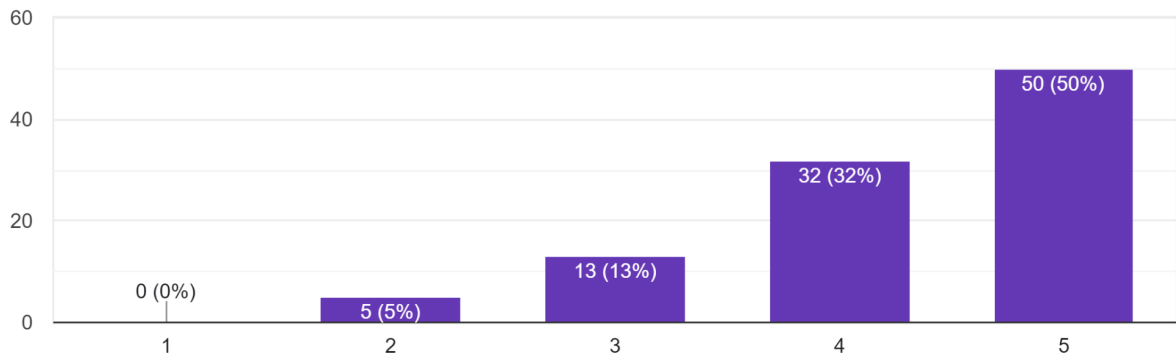


The ability to change is based on a persons motivation to do so.

100 responses



People can desire to change, but their ability to do so is limited by their surrounding factors.  
100 responses



**T-Test:** we chose to analyze gender as our grouping variable with our question on whether people's personalities are formed by their surrounding environment or biologically as our test variable. With the data posted below, we came to the conclusion that this is not a significant finding since the value comes out to be .46, thus it does not go below the .05 threshold.

**Group Statistics**

	Gender	N	Mean	Std. Deviation	Std. Error Mean
SEvsBio	Man	57	2.1754	.92819	.12294
	Woman	43	2.4419	.95873	.14620

**Independent Samples Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
SEvsBio	Equal variances assumed	.552	.459	-1.401	98	.164	-.26642	.19015	-.64377	.11093
	Equal variances not assumed			-1.395	89.015	.167	-.26642	.19102	-.64598	.11314

**One-Way ANOVA:** we chose to analyze how many times they have experienced change in their lives as the factor with how they view their own capacity for change being the

independent variable. With the data posted below, we came to the conclusion that this was a significant finding since the value comes out to be .033, right under the .05 threshold.

**Descriptives**

Capable

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Little to none	6	3.6667	.81650	.33333	2.8098	4.5235	3.00	5.00
A small handful	36	3.7778	.89797	.14966	3.4739	4.0816	2.00	5.00
Quite a few times	44	3.7045	.95429	.14387	3.4144	3.9947	2.00	5.00
So many times I can't count	14	4.5000	.65044	.17384	4.1244	4.8756	3.00	5.00
Total	100	3.8400	.91806	.09181	3.6578	4.0222	2.00	5.00

**ANOVA**

Capable

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.225	3	2.408	3.034	.033
Within Groups	76.215	96	.794		
Total	83.440	99			

**Chi-square:** we chose to put the results from the questions about how they might view other people's capacity for change and how they view their own capacity for change into the test variable list. This will give us an idea of how the answers from each question might relate to one another. With the data posted below, we came to the conclusion that this was a significant finding since the value comes out to be .000, well under the .05 threshold.

**Test Statistics**

	Capable	OtherPeople
Chi-Square	24.080 <sup>a</sup>	29.500 <sup>b</sup>
df	3	4
Asymp. Sig.	.000	.000

### Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Capable	100	3.8400	.91806	2.00	5.00
OtherPeople	100	3.6100	1.07210	1.00	5.00

### Discussion

The visual graphs of respondents' answers reveal a multitude of trends, both related and unrelated to our research goal. With 68 respondents in the age range of 18-24, we can conclude that most respondents were college students, with that majority attending Pittsburg State University. This conclusion can be drawn from the fact that the survey link was primarily presented to Pitt State students in order to boost responses. The gender split was fairly even with 57% of the responses being from men and 43% of respondents identifying as female. Interestingly, the responses for level of spirituality were almost completely equal across the presented options. Additionally, an undisplayed test revealed that as age increased, the average answer for levels of spirituality also increased. We chose not to delve into this concept too far so as to not veer off topic, but this trend could be interesting for future research applications.

Another trend witnessed across multiple questions was the high frequency of "neutral" answers. This trend occurred on both questions regarding criminal behavior, views on "change", openness to change, and the 'biological' vs. 'surrounding environment' questions. We believe this high frequency of neutral answers is a result of "change" and "criminal behavior" being inherently ambiguous concepts. When interviewing one of our respondents, he brought up the good question of "my answers were primarily neutral because, well, there are multiple types of change and my response to change depends on the type of change I am facing". While we were guided to a concrete definition of change in our literature review, the average person does not think of "change" as a concrete concept often enough to be able to give it a concrete definition.

Because “change” can take many forms, both good and bad, people’s response to “change” in general is subjective as a result. This will be more elaborate on in the next section, but we believe that the high frequency of neutral answers is partially due to the ambiguous nature of “change”

The T-Test analysis on gender and whether people's personalities are formed by their surrounding environment or biologically did not show real significance, as we expected. Our final percentages for man and woman responses came out to be 57% man and 43% woman. Not exactly even but enough for a fair evaluation on this test. As for the question involving personalities formed by their surrounding environment or biologically, the biggest answer was 2, designated as ‘mostly surrounding environment with a little bit of biologically.’ Followed closely by 3, ‘an even amount of both surrounding environment and biologically.’ This makes sense in the T-Test since the mean for man was 2.18 and the mean for woman was 2.44, both falling right in between those answers. This leads us to assume the majority of people think that an individual’s personality is formed mostly by their surrounding environment with a little bit of biological influence.

The One-Way ANOVA test was performed to see if there was any connection between how much an individual has experienced significant change and if that affects how they see the capacity for change in themselves. Our hypothesis here was that the more one experiences change in their life, they perceive less capacity for change in themselves. The reasoning being that since they’ve already gone through so much change, they would simply not like the thought of more change. However, the data resulted in a significant finding; proving our hypothesis wrong. In fact, the highest option for question 4, ‘So many times I can’t count,’ had the highest mean of all the options at 4.5. Meaning that even though they’ve experienced a lot of change,

they still have a high perceived capacity for change in themselves. For the lowest option, 'Little to none,' it did get the lowest mean at 3.66. Nonetheless, this is still an interesting find since it means that none of the options had a mean below that. Especially when the total mean was 3.84. This finding shows that even if you have experienced little to no significant change or a lot of significant change, you are still more likely to possess a fairly high self-perceived capacity for change.

The Chi-Square test was set to analyze our initial hypothesis predicting a relationship between self-perceived capacity to change and the perception of others' capacity to change. As seen above, the significance level is .000. With that number being below our threshold of .05, we can conclude that there is undoubtedly a relationship between the two variables. Not only does the chi-square test prove this point, but simply observing the visual trends on the questions regarding self capacity and capacity of others to change can conclude with this result. The bell curve presented has a right skew with the most answers for both questions being the "agree" option, with a significant portion of the remaining answers being distributed to the "strongly agree" and "neutral options". We believe that these correlated variables conclude that perception of others' ability to change is directly reflective of their self-perceived capacity to change. Additionally, because of the observed bell curves, we can conclude (although not entirely relevant to the study) that the group of respondents was primarily optimistic about humanity's capacity to change in general. That being said, the chi-square test shows that self-perceived capacity to change is directly related to perceived capacity of others to change with a 0% chance that the presented numbers are random.

### Limitations & Implications

While we believe that our 100 responses were valid and enough to confidently pull data from, a study such as this should likely have more responses, with 500+ being more preferable. Additionally, because of the responses being skewed towards a college-aged perspective, we believe that the conclusions drawn may not apply to the general population. Ideally, we would expand this study to be able to reach all age ranges equally and reach them in a geographically diverse area (because our respondents were all from the Midwest region of the United States). Additionally, as mentioned before, our presentation of “change” in our survey was admittedly over-ambiguous and left room for too much uncertainty with answers. This led to many responses being “neutral” because respondents may not have understood the question, or understood that change is ambiguous and therefore an objective answer is difficult to define. That being said, we believe that the results of this study can be cited when analyzing multiple aspects of society. First, the results of this study can explain legislation designed towards criminal behavior and the deterrence of repeat-offenses. Additionally, the findings of this study can apply to the field of psychology in an analysis of capacity to change or, because of the reflective results of self-capacity and capacity of others to change, can potentially help explain empathetic trends of people when analyzing others’ capacity for other elements of their lives.

### Conclusion

In conclusion, our study delved into the conceptualization of "change" in oneself and others, utilizing a quantitative survey of Midwest residents. Employing statistical analyses, we identified significant relationships, particularly between self-perceived capacity for change and the perception of others' capacity. The study drew on literature defining change as an internal process, overcoming psychological barriers, and considering motivation and readiness for

change. While acknowledging limitations in sample size and potential age bias, the findings contribute to understanding societal perspectives on change, offering insights applicable to fields such as law, psychology, and social policy. Future research could address these limitations for a more comprehensive understanding of the nuanced dynamics surrounding perceptions of capacity for change.



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