Marital/Cohabitating Status and its Effects on Health Locus of Control

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Health is a complex concept. With its complexity comes varying beliefs about one's control over it. Many may think that they have complete control, some may think that their health is arbitrary, and others may believe their health is decided by more powerful people. These varying levels of control can be described as one's health locus of control (HLC). A belief in personal control over one's health would be an internal HLC, with an external HLC being the opposite. In researching the various factors that affect HLC, society can gain insight into different health predictors, paths to mending relationships with health, and bettering lives.

Literature Review

Cierzniakowska et al. (2018) found that when patients are faced with a serious illness or diagnosis, their HLC tends to be relinquished to the powerful figures around them, such as doctors and nurses. It is understandable for such shifts to occur with a difficult diagnosis. A sense of autonomy can slip away once it feels as if one's future is in the hands of the experts around them. They also reported a belief that marital and employment status could influence HLC and is an interesting avenue for further research (Cierzniakowska et al. (2018).

In a study of Hispanic Americans, Champagne et al. (2015) sought to find different profiles of HLC in this demographic. They made four groups: internally oriented weak, moderate, strong, and externally oriented. Using the Multidimensional Health Locus of Control scales, the degree of internal orientation represented a belief in their control over their health. Those who had a strong internal orientation were discovered to be younger than the externally oriented group and had lower religiosity, cancer fatalism, and attributions to differences in health equity than all other groups (Champagne et al., 2015). With a broader scope of attributes, we can begin to make predictions about possible influences that affect HLC. For example, those with

higher religiosity could be more prone to attributing outcomes to higher figures or arbitrary health outcomes.

Zooming in further, it is known that marital status can be linked with risk factors or morbidity and mortality (Lindstrom & Rosvall, 2012). Additionally, Lindstrom & Rosvall (2012) found that married/cohabitating men and women had a stronger internal HLC compared to both unmarried and divorced men, as well as widowed women. Interestingly, divorced women had a greater internal HLC compared to married women. While this is valuable information, the general effect of marriage on HLC has yet to be discovered.

Given this broad landscape of possible determinants of one's HLC, there appears to be a gap in the power of marital status's effect. In observance of the factors associated with high internal HLC, this paper seeks to confirm a hypothesis that those who are married have a higher internal HLC compared to non-married individuals.

Method

Participants

The data come from the MIDUS 3 dataset. The original MIDUS study recruited 7,108 participants in total. Their ages ranged from 25 to 74, and they were all non-institutionalized English speakers in the United States. As this was a longitudinal study, the participants' ages now span from 40-94, with a median of 64 years for both males and females. Those who participated in MIDUS 3 originally were recruited through three different methods. 2,423 were recruited using random digit dialing (RDD), 677 were siblings of RDD participants, and 1,360 came from the "largest recruit of twins anywhere" (Ryff et al., 2013-2014). For the re-recruitment, only the participants who completed the MIDUS 2 phone interview were eligible.

They were compensated with a $2 bill, acting as a pre-incentive to participate in the study. They were given $25 after the telephone interview, two $5 bills as a pre-incentive to complete the self-administered questionnaire (SAQ), and $25 after completing the SAQ.

Procedure

Each participant went through the same process. After they received the Advance Letter informing them about the study, they completed a 45-minute interview over the telephone. It was a computer-assisted telephone interview, where the contents of the interview appeared question-by-question on a computer screen. The next step was a 100-page self-administered questionnaire (SAQ). The SAQ package was sent in the mail and came with instructions on how to fill out the booklet, 2 copies of the booklet, a return envelope, and a tape measure. The answers to the SAQ were entered digitally by data entry operators, who were supervised by trained editors. The final step was a 25-minute cognitive interview done via telephone.

To measure the health locus of control, participants were shown the following questions as a part of the SAQ: "I work hard at trying to stay healthy," "There are certain things I can do for myself to reduce the risk of getting cancer," "There are certain things I can do for myself to reduce the risk of a heart attack," and "Keeping healthy depends on things that I can do." They were prompted to give their level of agreement on a scale from 1-7, with the lowest score being *strongly agree* and the highest being *strongly disagree*. Their responses were then averaged. These questions and scale came from the Multidimensional Health Locus of Control scale.

Data Analysis

To test our prediction of married/cohabitating people having higher internal HLC than those who are not, we ran a lower-tailed independent sample Welsch's t-test with $\alpha = .05$. This test is appropriate because variance between groups was assumed to not be equal, we do not

know the standard deviation of scores within the population, and we are trying to find the true difference between the two means. It is a lower-tailed test because a higher internal HLC would result in a lower score, so if the married group has a lower true average score than the unmarried group, the difference will be negative. As a part of this test, we have to verify that the scores are normally distributed, that the groups are independent of one another, and that each pair of observations is independent of one another. Since we are only including the participants who were recruited through random digit dialing and the city oversample, we verify the assumption of independence, as each observation has been recruited randomly, and there is no overlap of subjects between the two groups. For the normality assumption, we constructed a qqplot for each group. As seen in the appendix, both of them indicate non-normality through the values not falling in a straight line, which is further demonstrated by the negative skew seen in Figure 1. A Shapiro-Wilks test of normality was done, which also concluded that the scores did not come from a normally distributed population for both married ($W = 0.91$, $p < .001$) and unmarried ($W = 0.91$, $p < .001$). Even with this hiccup, we can proceed with the t-test due to the assumptions mentioned previously being met and the sample sizes being greater than 30 for both groups.

Results

Using a lower-tailed independent-sample Welsch's t-test, we tested whether the married group's HLC score was lower than the unmarried ($t(876.4) = 0.69$, $p = .75$). Using a 95% confidence interval, the true mean difference between married and unmarried HLC is estimated to be at most 0.10.

The frequency of married participants was 1044, with a relative frequency of .69, while the frequency of unmarried participants was 475, with a relative frequency of .31. Overall, 213 participants were omitted due to missing data. As seen in Figure 1, the distribution of scores in

both groups was negatively skewed. The average score for unmarried participants was 6.1, with a standard deviation of 0.8. The average score for married participants was 6.0, with a standard deviation of 0.8.

Discussion

The results have shown a lack of support for our hypothesis, implying that there was no evidence for the true mean of married peoples' HLC score being lower than unmarried. Our result implies that marriage alone may not affect HLC, which is surprising considering the differences between married/unmarried male and female HLC found in Lindstrom & Rosvall (2012). Our results possibly clarify what may drive the differences found in their study. We may see gender as the driving force behind HLC differences rather than marital status. Since many societal influences can affect how each gender views themselves, it poses an interesting question for future research. An opportunity presents itself to find correlations between marital status, gender, societal influences, and HLC. In conducting these possible tests, we could gain greater insight into how one can best set oneself up for feeling in control of their life and health.

The limitations of this study generally come from the sample. Since the ages span from 40-94, there is an exclusion of a significant range of ages and different stages of life. With the HLC scores being high for both groups, it can indicate that this age group may feel less in control of their health. As seen in Champagne et al. (2015), being young was a predictor for having a higher internal HLC. This discrepancy makes it difficult to generalize to a broad population. Additionally, our sample of married people is over twice the amount as the unmarried, making it harder to accurately draw results. In the future, it would be useful to get equal sample sizes for both groups and to include more young participants, allowing for different ages to be analyzed separately.

References

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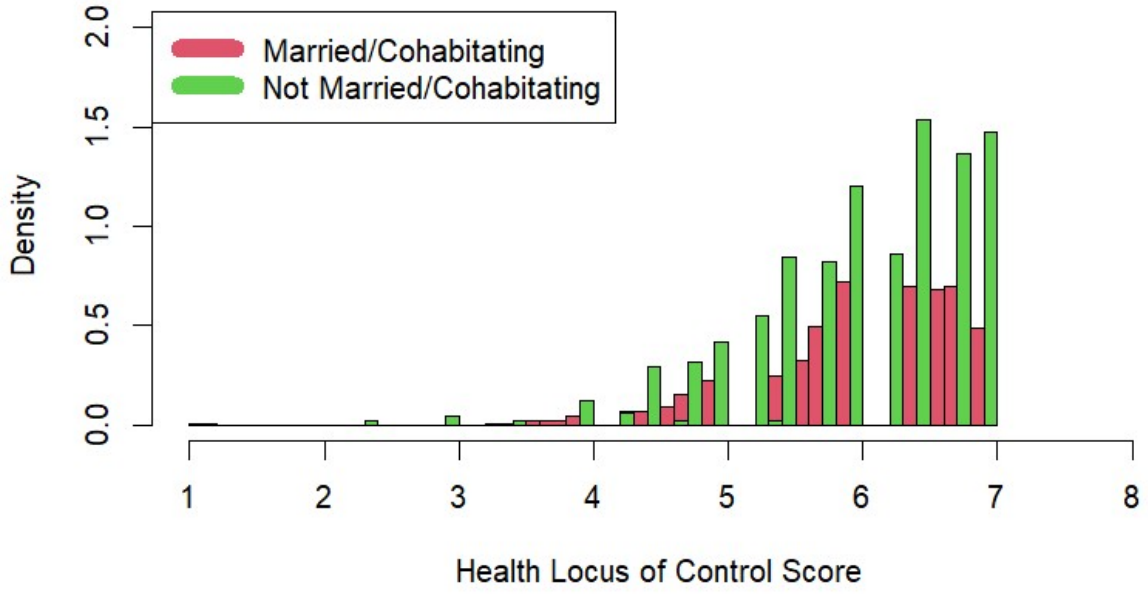
Figure 1

Histogram of HLC Scores for Differing Marital Status



Note: Marital/Cohabitating Status and Health Locus of Control. Most of the scores for the married participants (red) cluster from 6-7, with a mean of 6.0 and a SD of 0.8. Most of the scores for unmarried participants (green) cluster around 5-7, with a mean of 6.1 and a SD of 0.8.

Appendix

Normality Plots