**Parallel analysis suggests 9 factors, so I started from 9.**

General approach. I will start with running EFA with “Oblimin” rotation with all items and the specified number of factors. Later, I will trim out all the items that does not have good loading to any factor (loading < 0.3) to make sure the I get a clearer picture of all the item loadings. After obtaining a matrix of items loading, I will start inspecting items in each factor separately and see if they make sense conceptually.

9 factors model was abandoned because after inspection the6th, 8th, and 9th factors are not conceptually distinguishable: they mostly talk about treating other people equally. Therefore, I decided to drop the 9 factors model.

1. Factor 1
   1. 7,13,15,17,18,19,22,30,32,33,36,49,56,60,61,73,75
   2. This cluster of items are talking about **prosocial values**.
2. Factor 2
   1. 5,10,15,26,41,47,54,57,69,72,74
   2. This cluster of items are talking about **perception of reciprocal norms.**
   3. Note that the items in this cluster are mostly reverse coded items.
3. Factor 3
   1. 9,20,27,29,46,51,52
   2. This cluster of items are talking about **empathy**.
4. Factor 4
   1. 1,21,44,63,65
   2. This cluster of items are talking about **attitudes toward social problems**.
5. Factor 5
   1. 20,24,28,35,48,68
   2. This cluster of items are talking about **attitude toward prosocial spending (relates to effective altruism).**
6. Factor 6
   1. 45,67,70
   2. This cluster of items are talking about **fairness (categorical imperative).**
7. Factor 7
   1. 2,11,48
   2. This cluster of items are talking about **behavioral elements relating to prosocial spending** which seems to overlap with factor 5. Indeed, the 48 have good loading on both factors.
8. Factor 8
   1. 38,-57,-63,71,73,-74 (negative signs indicate negative loading)
   2. After inspection, this cluster seems to contain multiple elements such as **care for strangers (fairness which relates to factor 6)** and **disbelief about small effort combined to make big changes (relates to factor 2 and 4).**
9. Factor 9
   1. 6,-9,19,39,55
   2. This cluster seems to talk about **fairness and care for strangers (relates to factor 6).**

Looking at the results, I reckon that factors 6,8, and 9 seem to overlap in their conceptual meaning. Therefore, I explore whether they could be combined into a more general laten variable. Through a 7 factors EFA model with “Oblimin” rotation, I want to see if all the variables relating to fairness will merge. In this model, I followed the same procedure that I indicated above (trimmed out loading <0.3). The result supported my thoughts: all items relating to fairness merge into single factor in the 7 factors model.

1. Factor 1 (ML1)
   1. 4,7,12,15,17,18,19,22,25,30,32,33,34,36,37,-38,49,55,56,57,58,59,60,61,-62,63,64,-71,74,75
   2. High loading items (>0.45): 4,12,15,17,19,22,32,33,49,56,60,75
   3. This cluster of items are talking about **prosocial values and seems to include 3 subcomponents, 1) urge to help (proactiveness), 2) selfless orientation, and 3) insight in helping**.
   4. Due to the complexity of this factor, I further explore its subcomponents using EFA and CFA later.
2. Factor 2 (ML7)
   1. 3,5,8,10,15,26,33,41,44,45,47,54,57,58,69,72,74
   2. High loading items (>0.45): 10,26,41,54,57,69,72
   3. This cluster of items are talking about **perception of reciprocal norms and seems to include 3 subcomponents: 1) reciprocal norms, 2) activists’ ideology, and 3) social norms.**
   4. Note that the items in this cluster are mostly reverse coded items.
3. Factor 3 (ML4)
   1. 9,27,29,46,51,52
   2. High loading items (>0.45): 9,27,29,46,51,52
   3. This cluster of items are talking about **empathy**.
4. Factor 4 (ML6)
   1. 1,21,44,63,65,69
   2. High loading items (>0.45): 1,21,44,65
   3. This cluster of items are talking about **attitudes toward social changes**.
5. Factor 5 (ML2)
   1. 20,24,28,35,-47,48,64,68
   2. High loading items (>0.45): 20,28,35,48,68
   3. This cluster of items are talking about **attitude toward prosocial spending (relates to effective altruism).** This cluster seems to contain **affective and reflective components**.
6. Factor 6 (ML5)
   1. 6,18,38,39,45,55,62,67,70,71
   2. High loading items (>0.45): 6,38,39,45,67,70,71
   3. This cluster of items are talking about **fairness (categorical imperative).**
7. Factor 7 (ML3)
   1. 2,5,11,13,48,66,73
   2. High loading items (>0.45): 2,11
   3. This cluster of items are talking about **behavioral elements relating to self-sacrifice.**

7 factor solution seems to provide a good conceptual as well as statistical illustration for the factor structure in the do-gooder scale (CFI = 0.93, RMSEA=0.04). Therefore, I adopted this model.

To figure out if there is upper or lower-level structure for the 7 factors model, I ran some more EFAs and CFAs.

In particular, for exploring the upper-level factors, I looked at the correlation between 7 factors.

Text

Description automatically generated

No factors correlate strongly with others (by strongly I mean r>0.5). Therefore, I did not further explore the upper-level structure since the correlation matrix indicates it may not exist.

For the lower-level factors, I ran some EFA in each latent factor to see if they are unidimensional.

Factor 1 (ML1)

1. Sub-factor 1 (ML1)
   1. 12,15,17,18,30,33,34,57,58,61,63,74
   2. This one seems to **reflect proactiveness and urge to do good**.
2. Sub-factor 2 (ML3)
   1. 4,7,19,22,25,32,37,49,55,56,59,64,75
   2. This one reflects **insight in helping**.
3. Sub-factor 3 (ML4)
   1. 17,32,36,56,60
   2. This one reflects **selfless orientation**.
4. Sub-factor 4 (ML2)
   1. 38,62,71
   2. This one reflects **care for strangers** which overlaps with factor 6.Also, considering the low loading (<0.4) in the original 7 factors EFA, I decided to drop this sub-factor.

Also, depending on the requirements of conciseness, I decided to create a more accurate and concise version of the DGS by trimming out factors with relatively low factor loading or make little conceptual sense for each latent variable.

Final version of the scale

1. DGS\_4,DGS\_12,DGS\_15,DGS\_17,DGS\_19,DGS\_22,DGS\_32,DGS\_33,DGS\_49,DGS\_56,DGS\_60,DGS\_75
2. DGS\_10,DGS\_26,DGS\_41,DGS\_54,DGS\_57,DGS\_69,DGS\_72
3. DGS\_9,DGS\_27,DGS\_29,DGS\_46,DGS\_51,DGS\_52
4. DGS\_1,DGS\_21,DGS\_44,DGS\_63,DGS\_65
5. DGS\_20,DGS\_28,DGS\_35,DGS\_48,DGS\_68
6. DGS\_6,DGS\_38,DGS\_39,DGS\_45,DGS\_67,DGS\_70,DGS\_71
7. DGS\_2,DGS\_11,DGS\_13,DGS\_48,DGS\_73