

RESEARCH ARTICLE

## SELF-COMPASSION IN NURSES: A SCALE DEVELOPMENT STUDY

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### ABSTRACT

*This study aimed to develop a measurement tool to assess self-compassion levels among nurses. In this methodological research, convenience sampling, a type of non-probability sampling, was employed. The research was conducted with nurses living in Turkey who met the research criteria. Expert opinions were obtained for the 33-item draft form developed by the researchers, and a pilot study was conducted. Data analysis was performed based on the data obtained from 423 nurses after the pilot study. A 33-item draft questionnaire and a Demographic Information Form were used as data collection tools. Descriptive data were analyzed using percentage and frequency distribution. Content validity index, item-total correlation values, Kaiser-Meyer-Olkin test, Bartlett's sphericity test, principal component analysis, varimax rotation test, and confirmatory factor analysis (CFA) with the maximum likelihood method were employed for the psychometric evaluation of the scale. Since the correlation values of 13 items in the draft scale were low ( $<0.300$ ), they were removed from the scale, resulting in a 20-item structure. As a result of the Exploratory Factor Analysis (EFA), after removing items that loaded onto more than one factor, the Nurse Self-Compassion Scale was obtained with 14 items and three subdimensions, explaining 56% of the total variance. This structure was theoretically consistent with the three-factor structure proposed in the draft scale. In the Confirmatory Factor Analysis (CFA), it was determined that the items significantly loaded onto their respective factors ( $p < 0.001$ ). The Cronbach's alpha coefficient for the total scale was 0.77, while the coefficients for the subdimensions were 0.71 for Factor 1 – Common Humanity, 0.76 for Factor 2 – Self-Kindness/Self-Compassion, and 0.68 for Factor 3 – Mindfulness. The results obtained from the study demonstrate that the developed Nurse Self-Compassion Scale is a valid and reliable measurement tool that can be used to assess nurses' levels of self-compassion.*

**Keywords:** Nursing, self-compassion, scale, validity, reliability

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ARAŞTIRMA MAKALESİ

## HEMŞİRELERDE ÖZ-ŞEFKAT: BİR ÖLÇEK GELİŞTİRME ÇALIŞMASI

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### ÖZ

Bu çalışmanın amacı, hemşirelerin öz-şefkat düzeyini belirlemek için bir ölçüm aracı geliştirmektir. Metodolojik tipte olan bu araştırmada olasılıksız örnekleme yöntemlerinden kolayda örnekleme yöntemi kullanılmıştır. Araştırma Türkiye'de yaşayan ve araştırma kriterlerine uyan hemşirelerle yürütülmüştür. Araştırmacılar tarafından geliştirilen 33 maddelik taslaç form için uzman görüşleri alınmış ve pilot uygulama yapılmıştır. Veri analizi pilot uygulama sonrası 423 hemşireden elde edilen veriler doğrultusunda yapılmıştır. Veri toplama aracı olarak 33 maddelik taslaç anket formu ve Tanıtıcı Özellikler Formu kullanılmıştır. Tanımlayıcı verilerin analizinde yüzdelik ve frekans dağılımı; ölçeğin psikometrik değerlendirmesinde kapsam geçerlik indeksi, madde-toplam korelasyon değerleri, Kaiser-Meyer-Olkin testi, Barlett'in küresellik testi, temel bileşenler analizi, varimax dik döndürme testi ve maximum likelihood yöntemiyle doğrulayıcı faktör analizi (DFA) kullanılmıştır. Taslaç ölçekte yer alan 13 madde sınır korelasyon değerinden ( $> 0.300$ ) düşük olduğu için ölçek dışında bırakılmış ve 20 maddelik yapı elde edilmiştir. Açıklayıcı faktör analizi (AFA) sonucunda birden fazla faktöre yüklenen maddeler çıkarıldıkten sonra toplam varyansın %56'sını açıklayan 14 madde ve üç alt boyuttan oluşan Hemşire Öz-şefkat Ölçeği elde edilmiştir. Ölçeğin bu yapısı teorik olarak taslaç ölçekte oluşturulan üç alt boyutlu yapı ile benzerlik göstermiştir. Doğrulayıcı Faktör Analizinde ifadelerin kendi boyutlarına istatistiksel olarak anlamlı şekilde yüklentiği belirlenmiştir ( $p < 0.001$ ). Ölçek toplamı Cronbach's alfa değeri 0.77, alt boyutlar için Cronbach's alfa değerleri F1- Ortak İnsanlık Duygusu 0.71, F2- Öz Nezaket/Kendine Şefkat 0.76 ve F3- Bilinçli Farkındalık 0.68 olarak saptanmıştır. Araştırmadan elde edilen sonuçlar geliştirilen Hemşire Öz-şefkat Ölçeği'nin hemşirelerin öz şefkat düzeyini değerlendirmede kullanılabilecek geçerli ve güvenilir bir ölçme aracı olduğunu ortaya koymaktadır.

**Anahtar Kelimeler:** Hemşirelik, ölçek, öz-şefkat, geçerlik, güvenilirlik

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## I. INTRODUCTION

Nursing is based on care science and entails being sensitive to the pain of individuals, families, and communities, protecting them from distressing experiences with a compassionate approach, and alleviating suffering when necessary. In this regard, compassion is the most fundamental element of nursing science (Sharma and Jiwan, 2015; Bramley and Matiti, 2014). On the other hand, self-compassion involves directing compassion inward. In other words, self-compassion entails extending the humanity shown to others to oneself as well (Germer, 2020). Self-compassion is one of the ways for nurses to manage the stress they encounter in the workplace and to develop skills for "coming back" rather than getting disconnected from the flow of life when faced with difficulties (Delaney, 2018). Therefore, the level of self-compassion among nurses not only affects their own well-being but also influences their readiness to show compassion to individuals during caregiving experiences (Heffernan et al., 2010).

Kristin Neff (2003) observed that individuals tend to be more lenient and forgiving towards others than towards themselves and, based on this observation, introduced the concept of self-compassion. The concept of self-compassion is defined as the understanding, acceptance, and love of oneself, which enables individuals to manage their emotions positively, overcome challenges, reduce levels of anxiety, stress, and depression, and improve their quality of life (Neff, 2003; Derang et al., 2022). Furthermore, self-compassion necessitates that individuals treat themselves with kindness and compassion, particularly during times of suffering, without becoming overwhelmed by negative emotions (Thurston et al., 2021).

Self-compassion consists of three main components: self-kindness, mindfulness, and common humanity (Neff, 2003; Maricic et al., 2023). Self-kindness involves being gentle and loving towards oneself, rather than judging oneself, and striving to understand oneself without judgment (Neff, 2003; Thurston et al., 2021; Maricic et al., 2023). Mindfulness means maintaining awareness of experiences without becoming overly identified with feelings of pain. It involves balancing awareness of experiences related to suffering without suppressing them and accepting them as they are. To show oneself compassion, one must first be aware of their suffering. It requires accepting their presence rather than avoiding feelings of pain. The component of common humanity expresses that every individual can make mistakes, can experience failure, and that no one is perfect. Making mistakes, experiencing failure, suffering, and facing negative experiences are common human experiences. Individuals with high levels of self-compassion are aware of these common human experiences. When experiencing negativity, instead of thinking that they are the only ones experiencing it, they understand that this is a condition of being human. This awareness enables them to accept suffering with maturity (Neff, 2003; Maricic et al., 2023).

Nursing is a profession that necessitates sensitivity to the pain of individuals receiving healthcare services and requires providing assistance without judgment (Altun et al., 2020). Henderson (2001) emphasized that nurses need to possess not only high-level communication skills but also compassion in order to provide quality care services. For nurses to be compassionate towards the individuals/families they care for, they must first be compassionate towards themselves (Heffernan et al., 2010). This is because providing compassionate care is not possible without showing compassion to oneself (Thurston et al., 2021). Self-compassion ensures that nurses are ready to be compassionate towards the individuals they care for and promotes compassionate and empathetic nursing care, making it an essential attribute for nurses to possess (Heffernan et al., 2010). Self-compassion is highlighted as an important skill that nurses should have because it promotes resilience, health, encourages compassionate care, and enhances the quality of nursing care services (Sansó et al., 2019; Světlák et al., 2021).

Self-compassion, defined as showing understanding and kindness to oneself during difficult times, plays a significant role in preserving the emotional and psychological health of individuals, particularly in challenging professions like nursing. Nursing, being a profession fraught with intense stress and emotional burdens, underscores the importance for nurses to develop self-compassion skills

to be sensitive to their own needs (Misurya et al., 2020; Světlák et al., 2021). Nurses, while exposed to the pain, worries, and fears of the individuals they care for, must also protect their own emotional boundaries (Sansó et al., 2019). Taking all these factors into consideration, it is evident that self-compassion is an important factor for nurses to provide higher quality care and increase professional satisfaction in performing their duties. Therefore, there is a need for valid and reliable measurement tools to assess nurses' levels of self-compassion.

In Türkiye, nurses face numerous challenges such as excessive workloads, shift work, limited support resources, and inadequate remuneration (Erçevik and Bahçecik, 2024). These conditions make the development and assessment of self-compassion skills a critical requirement, not only for protecting their personal well-being but also for ensuring professional sustainability and the continuity of high-quality care services. Although there are scales available in the literature to assess self-compassion, they are often derived from studies conducted with young populations such as adolescents (Cunha, 2016; Neff et al., 2021) and university students (Neff, 2003; Neff et al., 2016; Raes et al., 2011). Studies have also tested the Self-Compassion Scale using data from different samples (Castilho et al., 2015; Neff et al., 2017; Neff et al., 2019). Some of these studies have adapted the Self-Compassion Scale to nursing undergraduate students (Meng et al., 2019; Alabdulaziz et al., 2020) or nursing samples from different cultures (Lluch-Sanz et al., 2022). However, no valid and reliable measurement tool specifically tailored to assess nurses' levels of self-compassion, considering their unique professional experiences, has been identified. This study aimed to develop a valid and reliable measurement tool specifically designed to assess nurses' levels of self-compassion, considering the characteristics of this group.

## II. METHODS

### 2.1. Research type

The research is a methodological study that aims to develop a scale to determine the self-compassion levels of nurses.

### 2.2. Nurse self-compassion scale (NSCS) development stages

The steps followed in the scale development process are outlined as follows:

**Drafting scale items:** For the development of the NSCS, a literature review was initially conducted, and an item pool was created. In this context, the conceptual framework related to self-compassion, as well as self-compassion measurement tools developed in national and international literature, were reviewed (Yıldırım and Sarı, 2018; Meng et al., 2019; Kotera and Sheffield, 2020; Dönmez and Çelikkaleli, 2021; Neff and Tóth-Király, 2022). As a result of the review, a 33-item draft scale was obtained.

**Expert opinions and content validity:** The content validity of the scale was assessed by seven experts, comprising four academic nurses, two expert nurses, and one language expert. The experts assessed the statements in terms of their relevance to the scale on a 1-4 point scale (1 = not relevant, 4 = very relevant) (Davis, 1992). The content validity indices (CVIs) of the scale items ranged from 0.86 to 1.00. With all statements scoring above the 0.80 threshold (Davis, 1992; Polit and Beck, 2006; Karagöz, 2019), no item was eliminated from the scale. The total CVI value of the scale was determined as 0.98. Content validity was ensured for each item and the total scale.

**Participants and data collection:** The data collection phase of the study was conducted between November 2022 and March 2023. The data collection tool consists of the "Demographic Information Form" created by the researchers to evaluate the sociodemographic characteristics of the participants in line with the literature and the 33-item draft NSCS form developed to determine the level of self-compassion and whose content validity was evaluated by expert opinions. Demographic Information Form was developed by the researchers based on a literature review (Yıldırım and Sarı, 2018; Meng et

al., 2019; Kotera and Sheffield, 2020), this 6-item form was designed to determine the sociodemographic characteristics of the nurses. NSCS consisting of 33 draft items, determines the self-compassion level of nurses. The items are scored on a five-point Likert scale ranging from "Does not describe me at all (0)" to "Describes me completely (4)". The items in the scale are prepared with statements evaluating self-compassion in the lives, work, and caregiving experiences of nurses. Higher scores on the scale are indicative of greater self-compassion.

A pilot study involving 20 nurses was carried out at this stage to evaluate the 33-item draft form, with a focus on the appropriateness of the scale items regarding language and clarity. Data from the pilot study were excluded from the psychometric property analyses of the scale. No feedback was received regarding the need for correction or improvement of the items, and it was determined that they were understandable by the nurses. Subsequently, the draft scale was administered to nurses, and data were collected. In this research, convenience sampling, which is a type of non-probability sampling, was used. The study population consists of 248,287 nurses working in Türkiye (The Ministry of Health of the Republic of Türkiye-Health Statistics Yearbook-2023). The study sample consists of a total of 423 nurses who have worked as a nurse for at least one year in Türkiye and who have the necessary technological equipment to respond to the data collection tools created via Google Forms. Everyone agreed to participate in the study. Drawing on the scale development literature, it has been stated that the sample size should be at least five times the number of items on the scale (Bentler et al., 1987; Karagöz, 2014). The sample size of this study exceeded six times the initial number of scale items.

**Data analysis:** The analysis of research data was conducted using SPSS V 24 (IBM Corporation, Armonk, NY) and AMOS V 23.0 (Amos Development Corporation, Meadville, PA, USA) statistical software packages. A significance level (p) of 0.05 was adopted for statistical tests. Descriptive statistics including percentages and frequency distributions were used to determine the characteristics of the data. Psychometric evaluation of the scale involved the calculation of CVI and item-total correlation values, as well as the application of the Kaiser-Meyer-Olkin (KMO) test, Bartlett's sphericity test, principal component analysis followed by varimax rotation for exploratory factor analysis (EFA), and confirmatory factor analysis (CFA) using maximum likelihood estimation. In CFA, the  $\chi^2/df$  ratio, Comparative Fit Index (CFI), Goodness Fit Index (GFI), Incremental Fit Index (IFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), Root Mean Square Residual (RMR), and Standardized Root Mean Square (SRMR) were assessed as fit indices for the scale model. For reliability assessment of the scale, The internal consistency (Cronbach's alpha), average variance extracted (AVE), and composite reliability (CR) were determined. For the analysis, SPSS V 24 was used to perform descriptive analyses, item-total correlation values, the KMO test, Bartlett's test of sphericity, EFA, Cronbach's alpha, and to analyze factor loadings for the calculation of AVE/CR. AMOS V 23.0 was utilized for CFA and the calculation of fit indices.

### **2.3. Ethical considerations**

The Social and Human Sciences Ethics Committee of the university where the research was performed granted ethical approval before the study began (Date: 30.06.2022; Decision No: 2022-654). Additionally, explanatory information about the research was provided to the nurses in the Google Form used for data collection, and they were requested to fill out the questionnaires if they agreed to participate in the research.

### **2.4. Limitations and assumptions**

A convenience sampling methodology was employed for the collection of study data. The key assumption of this study is the validity and reliability of the NSCS as a measurement tool.

### III. RESULTS

#### 3.1. Participant descriptive characteristics

The participant demographics revealed that 85.1% were female, 62.2% were married, 68.8% held a bachelor's degree, 78.3% resided in a city, and 22.5% were employed in the intensive care unit. The average age of the participants was  $34.46 \pm 8.18$  [min-max = 22-60] years, and their average professional experience was  $12.08 \pm 8.94$  [min-max = 1-48] years (Table 1). The dataset was divided into two parts as 200 data for EFA and 223 data for CFA. Random numbers were determined for this process (Randomness and Integrity Services Ltd., n.d.).

**Table 1. Distribution of the descriptive characteristics of the participants (n=423)**

Descriptive Characteristics	Mean	SD
<b>Age [Min-Max=22-60]</b>	34.46	8.18
<b>Years of experience [Min-Max=1-48]</b>	12.08	8.94
	n	%
<b>Gender</b>		
Female	360	85.1
Male	63	14.9
<b>Marital Status</b>		
Married	263	62.2
Single	160	37.8
<b>Level of Education</b>		
High school	14	3.3
Associate degree	37	8.7
Bachelor's degree	291	68.8
Post-graduate degree	81	19.1
<b>The units where the participants work</b>		
Emergency	58	13.7
Intensive Care Unit (ICU)	95	22.5
Operating Room	29	6.9
Administrative Unit	28	6.6
Psychiatry Service	45	10.6
Internal Medicine Units	87	20.6
Surgical Units	54	12.8
Women's and Children's Health Unit	27	6.4

\**Sd*=Standard Deviation, *Min*=minimum, *Max*=maximum, *n*=Number, *%*=Percentage

#### 3.2. Validity analyses

Item Analysis: As a result of the item analysis, the internal consistency value of the internal consistency of 33 items was found to be 0.814. Relationships between the items and the total scale were evaluated. Thirteen items with item-total correlation values in the range of [-0.076] to [0.294] were excluded from the scale as their correlation values were lower than the cutoff correlation value ( $> 0.300$ ).<sup>(30)</sup> Item-total correlation values for the remaining 20 items ranged between 0.314 and 0.594, while the overall Cronbach's Alpha coefficient for the 20-item scale was determined as 0.842. Given that each item's correlation value exceeded 0.30 and the item analysis results were deemed satisfactory.

Exploratory Factor Analysis (EFA): In this step, the KMO value of the draft scale was determined to be 0.820, and Bartlett's sphericity test yielded  $\chi^2=1323.658$  ( $p<0.001$ ). These results indicated that the dataset was sufficiently large and homogeneous for factor analysis (Karagöz, 2019). Following this, principal component analysis was performed on the scale items. The scale had a structure with five factors, each with eigenvalues  $> 1$ . The factors explained 58% of the total variance. In this structure, four items in factors 4 and 5 were found in other factors. Since it is recommended in EFA that items load on a single factor (Bursal, 2019), this structure of the scale was not accepted, and four

items were removed from the scale. When principal component analysis was conducted again, it was found that two items in factor 2 were simultaneously loaded onto two factors. Following the removal of these two items from the scale, the analysis was reiterated. The subsequent analysis revealed a three-factor structure characterized by eigenvalues exceeding unity ( $>1$ ), accounting for 56% of the total variance. Item factor loadings within this structure ranged from 0.403 to 0.899 (Table 2).

In the final step, a structure consisting of a total of 14 items was formed, with seven items in factor 1, four items in factor 2, and three items in factor 3. This structure showed similarity with the theoretically constructed three-dimensional structure in the draft scale. It was observed that the items remained in their respective theoretical subdimensions. Accordingly, after the EFA, the structure of the draft scale was accepted as follows: Factor 1 = Common Humanity (7 items); Factor 2 = Self-Kindness/Self-Compassion (4 items); and Factor 3 = Mindfulness (3 items) (Table 2).

**Confirmatory Factor Analysis (CFA):** An analysis of the scale's three-factor, 14-item structure was performed. Results indicated significant loadings of items onto their hypothesized dimensions ( $p<0.001$ ). The goodness-of-fit indices for the model were as follows:  $\chi^2/df = 1.610$ , CFI = 0.94, GFI = 0.93, IFI = 0.95, TLI = 0.93, RMSEA = 0.05, RMR = 0.07; SRMR = 0.06. These indices were within acceptable thresholds (Karagöz, 2019), providing confirmation of the hypothesized three-factor, 14-item structure of the scale (Table 2) (Figure 1).

**Table 2. NSCS EFA and CFA analysis values**

Factors	Factor Loadings									
<b>F1- Common Humanity</b> [Eigenvalue = 4.2; Variance Explained =20.2%]										
1 I often feel lonely when I have a problem with my colleagues. <sup>a</sup>	0.578									
2 When I struggle in the care process, I judge myself. <sup>a</sup>	0.801									
3 When I encounter difficulties in interacting with the individual I care for, I blame myself. <sup>a</sup>	0.766									
4 When I have a negative experience in my work life, I criticize myself the most. <sup>a</sup>	0.672									
5 When an unwanted task is assigned to me in my work life, I pity myself. <sup>a</sup>	0.403									
6 When under work-related stress, I don't know how to help myself. <sup>a</sup>	0.499									
7 When I experience difficult emotions such as jealousy or shame in my work life, I avoid facing them. <sup>a</sup>	0.554									
<b>F2- Self-Kindness</b> [Eigenvalue = 2.2; Variance Explained =18.9%]										
8 When I experience a problem in my life, I treat myself with tolerance.	0.817									
9 I am kind to myself.	0.803									
10 I am in a respectful interaction with myself.	0.694									
11 When I am performing my job, I pay attention to my body's needs and take care of myself.	0.717									
<b>F3- Mindfulness</b> [Eigenvalue = 1.2; Variance explained =16.5%]										
12 When I face difficulties in caring for individuals, I realize that all my colleagues can experience similar situations.	0.607									
13 When I receive positive feedback from the individuals I care for, I enjoy the moment.	0.899									
14 I take pride in myself for the successes I achieve in my professional life.	0.891									
[Total Variance Explained =55.6%]										
<b>Scale Fit Index Values</b>										
NSCS	<b><math>\chi^2</math></b>	<b>df</b>	<b><math>\chi^2/df</math></b>	<b>CFI</b>	<b>GFI</b>	<b>IFI</b>	<b>TLI</b>	<b>RMSEA</b>	<b>RMR</b>	<b>SRMR</b>
Acceptable	114.331	71	1.610	0.94	0.893	0.95	0.93	0.05	0.07	0.05
Fit Index	-	-	$\leq 3$	$\geq 0.95$	$\geq 0.90$	$\geq 0.90$	$\geq 0.90$	$\leq 0.05$	$\leq 0.08$	$\leq 0.08$

a=Reverse-coded

**Average Variance Extracted (AVE):** AVE for the overall scale was 0.36, while factor-level AVE values ranged from 0.25 to 0.49. Across both the total scale and its three underlying factors, the AVE values fell short of the recommended 0.50 criterion (Yaşlıoğlu, 2017). However, according to the literature, AVE values below 0.50 can be accepted in scales where CR values are above 0.6 (Fornell and Larcker, 1981). Considering that the CR values for the total NSCS and its factors ranged from 0.68 to 0.87, the CR of the NSCS was deemed adequate in line with the literature (Table 3).

**Table 3.** Cronbach's Alpha, CR, and AVE values of the NSCS

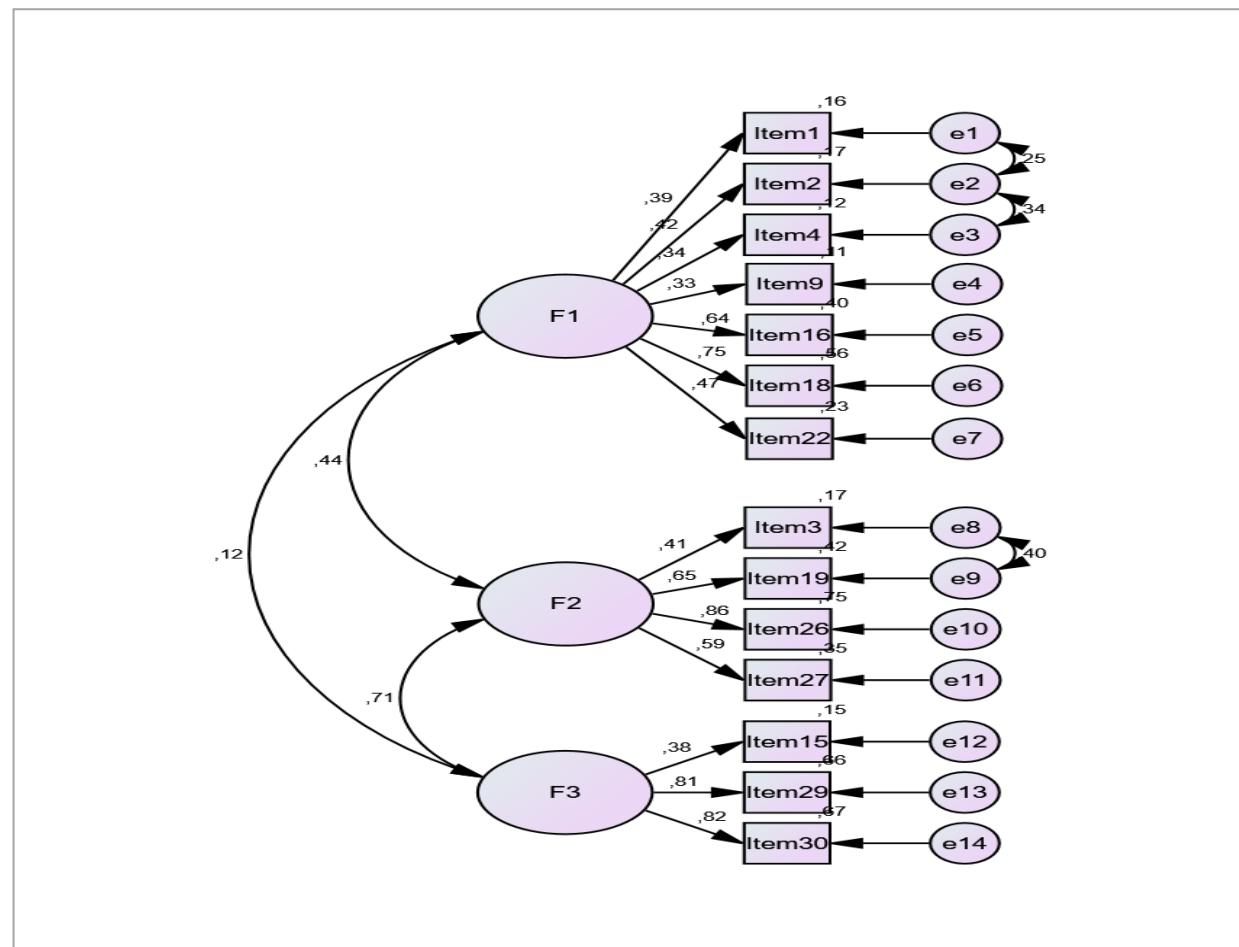
NSCS and Factors	Cronbach's Alpha	CR	AVE
F1- Common Humanity	0.717	0.68	0.25
F2- Self-Kindness	0.766	0.79	0.42
F3- Mindfulness	0.683	0.72	0.49
NSCS Total	0.770	0.87	0.36

\* CR = Composite Reliability; AVE = Average Variance Extracted

### 3.3. Reliability analyses

Internal Consistency (Cronbach's Alpha Coefficient): The Cronbach's alpha coefficient for the overall scale was calculated as 0.770. The Cronbach's alpha values were found to be 0.717 for F1-Common Humanity, 0.766 for F2-Self-Kindness/Self-Compassion, and 0.683 for F3-Mindfulness (Table 3). The internal consistency of the scale was achieved.

Composite reliability (CR): For the NSCS, the composite reliability (CR) values were determined to be 0.87 for the total scale, while the CR values for the factors were 0.68 for F1, 0.79 for F2, and 0.72 for F3. The composite reliability (CR) values of the scale exceeded the established threshold of 0.70 (Hatcher and O'Rourke, 2013) (Table 3).

**Figure 1.** The Structure of the NSCS after CFA

\*F1- Common Humanity; F2- Self-Kindness; F3- Mindfulness

#### IV. DISCUSSION

This research involves the development of a new scale named the NSCS. The findings indicate that the NSCS, with its 14 items under 3 factors, can be used as a valid and reliable measurement tool. Furthermore, the factors in the developed scale, namely "Common Humanity," "Self-Kindness/Self-Compassion," and "Mindfulness," are consistent with the components of self-compassion described in the literature. The harmonious structure of self-kindness, common humanity, and mindfulness components is highlighted in the literature as a comprehensive way to define self-compassion (Delaney, 2018; Germer, 2019). The scale's compatibility with the self-compassion literature is emphasized as a strong aspect. Additionally, the scale can be calculated as a total score, with higher scores indicating higher levels of self-compassion among nurses. The score ranges for the scale's sub-dimensions are as follows: Common Humanity (0-28 points), Self-Kindness/Self-Compassion (0-16 points), and Mindfulness (0-12 points). Higher scores on each sub-scales indicate an increased level of the measured trait. These methodological steps followed in the present study are consistent with those reported in the literature, indicating that the development of the NSCS aligns with established practices in psychometric research (Neff, 2003; Polit and Beck, 2006; Meng et al., 2019; DeVellis and Thorpe, 2021).

In the research, the content validity was assessed by obtaining the opinions of seven experts to determine the level at which the items composing the scale and the scale as a whole represent the level of self-compassion among nurses. According to the expert opinions, none of the items were removed from the scale since all items and the total content validity index (CVI) exceeded the cutoff value ( $>0.80$ ) (Davis, 1992; Polit and Beck, 2006). The CVI values in the research indicate that the items of the scale adequately represent the level of self-compassion among nurses, as there was a consensus among the experts regarding this matter (Polit and Beck, 2020; DeVellis and Thorpe, 2021).

Before conducting factor analysis, the suitability of the sample size was tested by performing KMO and Bartlett's Test of Sphericity for the draft scale. The results indicated that the sample size was adequate for factor analysis and the data were homogenous (Kalayci, 2010; Karagöz, 2019). Accordingly, EFA and CFA were conducted to test the construct validity of the scale. Following the removal of some items, a three-factor structure explaining 56% of the total variance, with eigenvalues greater than 1, was identified in the EFA. The factor loadings of the items ranged from 0.403 to 0.899, all exceeding the threshold of 0.30. The EFA indicated a robust construct validity of the NSCS (Karagöz, 2019; Johnson and Christensen, 2019).

CFA was performed to confirm the validity of the 14-item, three-dimensional structure identified in the EFA. It was found that the items significantly loaded onto their respective dimensions ( $p < 0.001$ ). The fit indices for the model were  $\chi^2/df = 1.610$ , CFI = 0.94, IFI = 0.95, GFI = 0.93, TLI = 0.93, and RMSEA = 0.05, indicating an acceptable fit. For an acceptable fit, the  $\chi^2/df$  ratio should be five or less, CFI and IFI values should be 0.85 or above, GFI and TLI values should be 0.80 or above, and RMSEA should be 0.08 or below (Johnson and Christensen, 2019). Consequently, the construct validity of the 14-item, three-dimensional structure of the NSCS was confirmed (Karagöz, 2019; Johnson and Christensen, 2019; DeVellis and Thorpe, 2021).

In scale development studies, it is essential for the scale and its factors to meet the criteria of homogeneity and reliability (Karagöz, 2019; Johnson and Christensen, 2019). The most commonly used criterion for assessing internal consistency is the Cronbach's alpha reliability coefficient. When Cronbach's alpha is  $<0.40$ , the scale is considered "unreliable." On the other hand, Cronbach's alpha between 0.40-0.60 indicates "low reliability," 0.60-0.80 indicates "moderate reliability," and 0.80-1.00 indicates "high reliability" (Tabachnick et al., 2013). In this study, the Cronbach's alpha for the total scale was determined as 0.770. The Cronbach's alpha coefficients were found to be 0.717 for Factor 1 - Common Humanity, 0.766 for Factor 2 - Self-Kindness/Self-Compassion, and 0.683 for Factor 3 - Mindfulness. These findings indicate that the scale ensures internal consistency. Additionally, the NSCS meets the criteria for composite reliability. The composite reliability values for the scale were

determined to be 0.87 for the total scale, 0.68 for F1, 0.79 for F2, and 0.72 for F3, which exceed the threshold value of  $> 0.70$  (Hatcher and O'Rourke, 2013).

## V. CONCLUSION

The NSCS is a valid and reliable measurement tool for assessing nurses' levels of self-compassion. The scale consists of 14 items (7 positive + 7 negative) under three factors. The factors are as follows: F1 - Common Humanity [Items 1-7], F2 - Self-Kindness/Self-Compassion [Items 8-11], and F3 - Mindfulness [Items 12-14]. The items are assessed using a five-point Likert scale, ranging from 0 indicating "Does not describe me at all" to 4 indicating "Completely describes me." Higher scores indicate higher levels of self-compassion in nurses' caregiving processes. The reverse items are included in F1 - Common Humanity. When calculating the total score of the scale, the reverse-coded items should be entered into the dataset by reverse-coding the Likert structure, and the scores of all items should be summed. The reverse items consist of items 1-7. The highest score that can be obtained from the scale is 56, while the lowest score is 0. The total scores of the factors are obtained by summing the scores of the items within each factor.

Although the present study demonstrates satisfactory validity and reliability of the NSCS, several limitations should be noted. The sample was drawn from nurses working in Türkiye through convenience sampling, data were collected online, and only cross-sectional data were used. These factors may limit the generalizability of the findings. Therefore, further research is recommended to strengthen the psychometric evidence of the NSCS. Specifically, replication of the study with larger and more diverse nurse populations, cross-cultural validation studies, and applications with different health professional groups would provide important insights into the scale's generalizability. In addition, longitudinal studies and test-retest reliability assessments are needed to examine the temporal stability of the scale. Finally, intervention-based studies in which the NSCS is used to evaluate the effectiveness of self-compassion training programs or psychosocial interventions will help to demonstrate its sensitivity and practical utility. These steps will further establish the robustness of the NSCS and expand its applicability in nursing research and practice.

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